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Center

Graduate Management Project

Business Case Analysis for a Gastroenterology Ambulatory Procedure Center

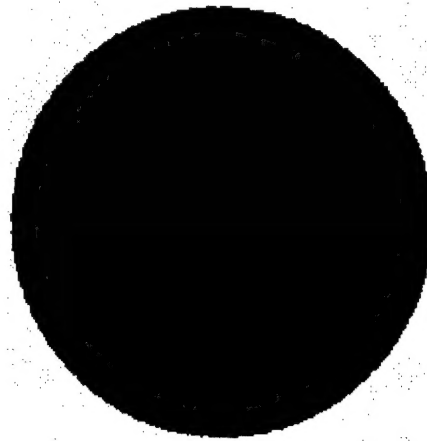
Tripler Army Medical Center

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## Graduate Management Project Proposal

### Business Case Analysis for Gastroenterology Ambulatory Procedure Center

#### Tripler Army Medical Center

#### Introduction

The Commander of Tripler Army Medical Center (TAMC) has requested that a Business Case Analysis be developed for a Gastroenterology (GI) Ambulatory Procedure Center (APC).

#### Conditions which prompted the study

Department of Medicine Chief, Colonel (COL) Dale Vincent in December of 2000 first proposed the development of a GI APC. The primary objectives of COL Vincent's proposal were to locate a GI APC into the space located in the former PICU (Pediatric Intensive Care Unit), increase Endoscopy space, increase surgical space, and increase and collocate recovery space. This was motivated in part by the inefficiencies that exist in the TAMC Gastroenterology Service located in the Medical Specialties Clinic located on the fourth floor. Patients have experienced significant delays because of the transfer process to the Post Anesthesia Care Unit (PACU) on the sixth floor. This process reduces the number of procedures that can be scheduled. Most procedures last about one hour, after which the patient must be wheeled from the fourth floor to the sixth floor, prior to admission to the PACU. This process often causes up to 15-minute delays and loss of valuable staff that could be conducting preparation and turnover procedures for the next procedure. The patient is also required to be picked up after recovery in order to dress and out-process the patient. Another inefficiency that exists is that the

PACU receives its last patient at 1530 hours. Because of this, GI has curtailed its ambulatory procedures to the morning hours, limiting its operating hours (COL Vincent, personal communication 21 Sep 01; CPT Vondruska, personal communication, 21 Sep 01). An additional cause for this loss of workload can also be attributed to lack of staff and outdated inefficient equipment. This need for new equipment is supported by a request submitted by Mr. Gary Christal, Administrator Department of Medicine and MAJ Darren Baroni GI provider to the Army Productivity Enhancement Program (PEP) for additional equipment in March 2001. The project was ranked 19<sup>th</sup> out of 41 projects that were considered for approval (Christal, personal communication, 21 Sept 01).

Unfortunately, funding was not allocated to this effort. These inefficiencies and possibly others have contributed to the inability to provide care and the loss of 239 TRICARE Prime and 417 Veterans Affairs (VA) ambulatory procedure visits to the civilian network of providers during fiscal year 2000 (Health Net, 2001; VISTA, 2001).

In June of 2001, COL Vincent performed a preliminary review of available space within the hospital and found that space existed in several locations for the possible development of a GI Ambulatory Procedure Center. An informal proposal was presented by COL Vincent and approved for further study by Major General Nancy Adams, Commander, Tripler Army Medical Center (COL Vincent, personal communication, 01 Aug 01).

Also in June of 2001, Dr. Steven McBride, Chief of Staff of the Veterans Affairs Spark M. Matsanuga Ambulatory Care Center (located on Tripler campus), requested that the development of an APC with the specific goal of treating VA beneficiaries for outpatient surgeries, endoscopies, cardiac diagnostics and infusion therapy be researched

and developed (See Appendix A; McBride, 2001). The VA utilizes TAMC facility for GI and Surgical procedures on a daily basis. Interestingly, the VA hired a Gastroenterologist in early FY 2001 to recapture lost workload. Ironically, because of the new provider's presence and ability to identify more clinical problems with patients, it was found that his workload nearly doubled from FY 2000 to FY 2001. During FY 2000, over 450 VA beneficiaries were referred downtown and in FY 2001 over 750 cases were referred (VISTA, 2001; Mitson, personal communication, 19 Sept 01).

From a surgical perspective, TAMC already has a surgical based APC. This unit is known as the Surgical Admission Center (SAC). It is a Hospital Integrated Unit (Davis, 1987). This type of unit has a preparation and administration area and several recovery rooms. Ambulatory procedures are currently being done in the main Operating Rooms (ORs), initially recovered in the PACU for phase one recovery and the phase two or follow on recovery is conducted in the SAC. After recovery, patients are administratively processed out of the unit (COL Diamond, personal communication, 3 Oct 01). The importance of this is that the SAC is handling all ambulatory surgical cases. Currently there is no centralized site for GI type ambulatory procedure visits that can accommodate GI Pediatric, GI Surgery, and GI cases. The development of this type of center would possibly finalize the establishment of two centralized locations for ambulatory care, one for Surgical Ambulatory Procedure Visits (APVs) and one for GI Ambulatory Procedure Visits.

A Process Action Team (PAT) was developed and several meetings have taken place to date and more will be held during the project's development. The purpose of these committees is that they allow for operational issues, both clinical and administrative

to be solved by utilizing problem solving techniques and group interaction from all services within TAMC (TAMC Regulation 40-4, 1997). The PAT process is a mechanism that TAMC has developed to meet the requirements of the Joint Commission on Accreditation of Healthcare Organization's (JCAHO) requirement to have a process improvement system in place in all medical facilities (J. Henry, personal communication, 5 Nov 2001; JCAHO Manual, 2001). Representatives from both Department of Medicine and Surgery were present at these meetings. Each service has developed their own list of procedures that could be done in an ambulatory setting. Layouts, space requirements, location, patient templates and specialty area of emphasis will be determined at future meetings.

#### Statement of the Problem or Question

Ambulatory Procedure Visits (APVs) for Gastroenterology are being referred to the network of civilian providers in the Honolulu area at an alarming rate (TRICARE Operations Referral Report, 2001; Health Net, 2000; Health Net 2001). Unfortunately, the VA has experienced the same problem to the point of actually hiring their own GI provider in early FY 2001 (VISTA, 2001) & (Mitson, personal communication, 18 Sept 01). This loss of workload is ultimately resulting in lost opportunity and poor utilization of existing resources and staff for both organizations. By developing a GI APC, new efficiencies can possibly be obtained and lost workload recaptured.

#### Literature Review

##### Defining the Ambulatory Procedure Center (APC)

There are several types of Ambulatory Procedure Centers that focus on different mixes of procedures. The term Ambulatory Procedure Center is not a universal term.

Based on the Ambulatory Surgery & Outpatient Services Manual, the term Ambulatory Surgery Center is used for both GI based and Surgery based centers because the Centers for Medicare/Medicaid Services (CMS), formerly known as the Health Care Finance Administration (HCFA), views these as one in the same (HFMA, 1997).

The U.S. Army Medical Command (MEDCOM) uses the term Ambulatory Procedure Unit (APU) and defines this type of center as a location where Ambulatory Procedure Visits (APV) are performed and recovered within 24 hours (MEDCOM APU/APV Guidelines, 1998). For the purpose of this study and to avoid confusion, the term Ambulatory Procedure Center (APC) is used. There should be equal consideration and space allocated to both Surgical and GI procedures. Many times the focus is strictly on surgical procedures. These two specialties may often be co-located or separate (Billig, 1997). Some organizations may choose to specialize on one specialized service and offer only that one service in their center (Billig, 1997). This was evidenced by the GI APC PAT Team's visit of the St. Francis Endoscopy Center in October, 2001 (Mostuda, personal communication, 10 Oct 01). This visit is discussed later in the Literature Review of this study. Other organizations may choose to have one center dedicated to several specialties all under one roof. Percentages of procedure time are allocated to each specialty on the scheduling template (Federated Ambulatory Surgery Association, 2001).

#### Evolution of the Ambulatory Procedure Center

Modern Ambulatory Procedure Centers came on the scene in 1969 when the first was developed in Phoenix Arizona. The Phoenix Surgery Center was one of the first models of this type of innovative care. It provided multi-specialty care. There was a

very slow proliferation of this type of care during this period because of a lack of government and private reimbursements (Billig, 1997).

During the 1970's, the Freestanding Ambulatory Surgery Association (FASA) was formed. It consisted of multi-specialty centers across the United States. This organization later became the Federated Ambulatory Surgery Association (FASA). Another organization also developed small freestanding type clinics known as the American Society for Outpatient Surgeons (ASOS). Several studies showed that these multi-specialty ambulatory centers provided convenient cost saving care with lower infection rates and low mortality rates (Billig, 1997; Federated Ambulatory Surgery Association).

During the 1980's, Medicare developed a list of procedures that it identified for reimbursement purposes. Meanwhile, private insurance companies started to change their outlook toward these types of units. Growth of multi-specialty and single specialty centers began to expand. Some better-known names in the industry were Alternacare and Medical Care International (Billig, 1997).

In 1986, the Ambulatory Reconciliation Act, also known as the Durenberger Legislation, passed into law. This act decreased ambulatory reimbursement to hospitals and ambulatory centers. Facilities would now be more concerned with developing cost cutting measures for ambulatory cases (Billig, 1997).

Ambulatory Procedure Centers grew in popularity in the late eighties and early nineties because of lowered reimbursements. The Recovery Care Bill was also passed in California which promoted this type of care and helped in the proliferation of these types

of units. More and more recovery beds were added to ambulatory procedure units (Billig, 1997).

From the early nineties to present, managed care has permeated healthcare in all aspects. There is now an emphasis on effectiveness, efficiency, equity, access, quality and cost (Aday, Begley, Lairson & Slater, 2000). Ambulatory Procedure Centers have proven to be good for business. Today, large mega-systems such as Columbia HCA are acquiring companies like Medical Care America, the largest surgery center company in America (Billig, 1997).

In the future, over 70% of all Surgical and GI procedures will be performed in an outpatient setting. Alternatives such as sending patients home after a surgery are being explored. The role of the Ambulatory Procedure Center has not yet been fully realized, but when all costs are evaluated the general rule will be to use these types of centers to lower costs and lower inpatient admissions (Billig, 1997.)

#### Types of Ambulatory Procedure Centers (APCs)

Different forms of centers began to take shape during the 1980's. There are advantages and disadvantages to each. The first type of center is the Hospital Integrated Unit, which is a designated area in the hospital where preoperative evaluation, preparation and post recovery care are provided (Davis, 1987). The regular operating rooms and recovery rooms of the hospital are used for both inpatient and ambulatory type patients and resources can be shared (Frezza, Girmys, Silich, & Coppa, 2000). The advantage of this type of unit is that it requires minimal remodeling and construction. Units can be constructed quickly and put into operation. There is minimal risk by being located in a hospital. Sharing of equipment and personnel amongst specialty services is

possible. Providers feel more comfortable using their own OR's and procedure rooms. The disadvantages of this type of unit are that there are often delays or cancellations of care due to more important cases (Frezza et al., 2000). Patients may find delays in admission times due to competing with inpatients, which are normally more urgent cases. Patients may feel facility charges are exorbitant because the patient is required to pay a facility charge for the everyday upkeep of the entire hospital (Davis, 1987).

The next type of center is a Hospital Autonomous Unit, which is a totally self-sufficient unit providing preoperative, intraoperative, recovery, and post-operative care. This type of unit may be located in the hospital or on the hospital grounds but it functions as its own unit. This type of unit cuts down on costs because all the care is coordinated and centrally located. No longer does transport take away from vital staff that could be performing procedures. There is more satisfaction from the patient because they now feel as if they are being taken care of by one team. Morale and teamwork in these types of units is usually high. Disadvantages for this option are that construction costs are often high for this type of a unit; old space may not be convertible (Frezza et al. 2000). A firm commitment from all parties within the facility is needed before the financial commitment is made (Davis, 1987).

Another type of center is the Hospital Satellite Unit which is an autonomous unit sponsored and controlled by the hospital but located away from the hospital campus. The advantages are similar to the Hospital Autonomous Unit. By being away from the hospital, it can service an additional portion of the community. This type of center extends the coverage of the hospital. This unit is often easier for patients to access because it is away from the congestion often found around a hospital. Disadvantages are



also similar to those of the Hospital Autonomous Unit. Opposition may be experienced from smaller provider practices and groups for fear of the hospitals ability to garner market share from its already powerful reputation and economic power (Davis, 1987).

The final version is the Freestanding Unit, which is an autonomous unit that is not affiliated with any kind of hospital or large healthcare organization. The advantages are the same as any Hospital Satellite Unit but it also has lower operating costs because it does not have to help pay for operating costs of the hospital that would own it, thus costs of care are lowered. The layers of bureaucracy of a large institution are also removed. The disadvantages are that this type of facility lacks the full resuscitative capacity of a hospital if in the event a procedure were to go awry. But the public has learned of the excellent track record of these types of facilities. Standards are rather high in that all facilities must have capabilities to handle emergency situations (Davis, 1987).

#### APCs in the MEDCOM

In recent years within the MEDCOM there has been some movement to start Ambulatory Procedure Centers. Within all the facilities these centers are integrated into the hospital itself. From all the interviews conducted by the researcher it was found that the facilities have a separation between GI and Surgery and utilize either GI procedure rooms and their ORs to perform procedures. There was also no evidence that indicates that a Free Standing Unit that combines procedures or provides single specialty procedures has been developed. Many of the facilities that exist within the MEDCOM are antiquated and cramped. They were not designed for spacious, state of the art combined specialty Ambulatory Procedure Centers, which normally require major structural workarounds that are very expensive (Davis, 1987). This is especially true in

the state of Hawaii where construction costs are almost those found in the mainland (Lau, personal communication, 19 Sept 01). Whenever an APC involves structural changes to include the development of ORs, the cost for construction is very high. ORs normally require special air ventilation, room temperature adjustability and lighting requirements. This type of construction can be very costly (Lau, personal communication, 19 Sept 01).

Walter Reed Army Medical Center was not designed to accommodate a Hospital Satellite or Freestanding APC. A Hospital Integrated Unit has been developed that utilizes existing ORs and recovery. This unit is called the Ambulatory Processing Center. This unit is located on the sixth floor of the facility and this is where patients are administratively and educationally prepared for the procedure. They are then taken into a pre-op room where the patient is prepared for their procedure. From here patients are then taken to the fourth floor where the main ORs are located. Surgical procedures to include GI surgical procedures are conducted in this area. GI procedures are done in the GI clinic of the facility. After their procedures, patients are taken to the recovery room. There is the general recovery room on the sixth floor. This room is broken down into phase one for initial recovery (first hour) and phase two for follow on recovery (CPT Pixley and CPL Avent, personal communication, 18 Sept 2001). It was the sentiment of CPT Pixley, an officer in the Ambulatory Processing Center that the current setup at Walter Reed was probably not the most optimal example of a unit that is autonomous and self-sufficient (CPT Pixley, personal communication, 03 Sept 01).

Womack Army Medical Center is a new facility that has worked with the APC concept for years. Before its move to a new facility in April 2000, Womack had an APC. A Hospital Integrated Unit has been in existence for seven years even before the move to

the new facility. It is called the Same Day Surgery Center. It is self-sufficient in all aspects except it does not have its own ORs or procedure rooms. This center is based around the ORs which are located on the second floor of the facility. This center has a pick-list of APVs, which is reviewed annually by specialty chiefs. This list consists of ambulatory procedures that can be done within this type of center. The center supports Orthopedics, Obstetrics and Gynecology (OBGYN), Otolaryngology (ENT), Plastics, General Surgery, Urology, Gastroenterology, Podiatry, Ophthalmology, Cardiac, Pulmonary, and Oral Maxial Surgery. The center has ten preparation rooms. The patient fills out all administrative paper work on the first floor Pre Admission Unit a few days prior to the procedure. This documentation is critical because it gives the organization credit for an APV, which can result in more accurate reimbursements. The patient then receives education on the details of the procedure. On the day of the procedure, the patient is given minor IV sedation in the preparation rooms of the Same Day Surgery Center and is then taken to the OR on the same floor. After the procedure, the patient is taken to a combined Post Anesthesia Care Unit (PACU) also on the second floor. This room has two phases, phase one for initial recovery and phase two for follow on recovery. Once the patient is recovered, they are brought back to the Same Day Surgery Center for discharge. GI procedures are performed in the GI Clinic, which is located near the Same Day Surgery Center on the second floor. This clinic has procedure rooms and a recovery room. All of the Ambulatory Procedure Visits are conducted on one floor in the same general area but there is a separation between Surgery and GI type procedures (MAJ Drost, personal communication, 21 Sept 01).

Madigan Army Medical Center has a very similar operation to Womack that utilizes existing ORs and recovery and a separate GI clinic (COL Evans, personal communication, 21 Sept 01). Brooke Army Medical Center does have a Hospital Autonomous Unit with its own OR pods and procedure rooms. To date it has not been used. The reason for this is lack of staff to run the facility (COL Odegard, personal communication, 1 Oct 01).

#### Layout, Patient Flow, Equipping and Staffing

For any APC, the patient flow plan and layout must be discussed. The literature alludes to some key areas being required when developing an APC layout (see Appendix D; Billig, 1997). This layout must be user friendly to not only the patient and family, but the staff as well. The first area is a reception area, which is used to receive patients and begin the administrative paper work for the procedure. It is also an area where the patient can receive education about the procedure and its after effects. The patient usually does this a few days before the procedure. When the patient returns for the procedure, the family waits in the waiting room while the patient then moves to the preparation rooms. In the preparation rooms, the patient is unclothed and IV sedation can begin. In the case of GI, this is only conscious sedation, unless it is a more complex surgical case that must be handled in an OR. This type of OR may be located in the APC or in a separate area (HFMA, 1997). In the case of surgery, an anesthetist would be required, but in a GI based APC a qualified RN or Gastroenterologist can perform this function (CPT Vondruska, personal communication 26 Sept 01; TAMC Reg. 40-32, 1998). The patient then goes into a procedure room, where the necessary equipment is housed. After the procedure, the patient would enter a phase one recovery room or intermediate recovery

room where nursing staff for the first hour of recovery would closely monitor the patient. Assuming there were no complications, the patient would then go to the phase two recovery room or a large recovery room that would be used as the final stop before the patient goes home (COL Odegard, personal communication, 1 Oct 01). Some facility layout plans do not have phase one and phase two recovery; they just have a single recovery room. An example of a typical layout can be seen in Appendix D (HFMA, 1997).

Tour of Hawaii Endoscopy Centers, Endoscopy Center (Located at St. Francis Campus)

The GI APC PAT visited a facility that is dedicated solely to performing GI APV's. Hawaii Endoscopy Centers, Endoscopy Center (located at St. Francis Campus) is a new facility located in Honolulu, Hawaii. It is awaiting final certification before opening to the public. The administrator for the center is Ms. Doreen Matsuda. The facility has a reception area, a patient locker room where the patient can keep personal items, a waiting room, a patient IV prep area for conscious sedation purposes, three procedure rooms and a large recovery room. The concept behind the center is to perform GI type procedures only. The facility is used by a for profit medical group of Gastroenterologists (in a non-academic setting) (Kongstvedt, 2000; D. Matsuda, personal communication 10 Oct 01).

This center is state of the art and very specialized. The intent behind the system is to create a patient friendly center that is focused on mass production of procedures. The reception area has pleasant music playing and there are patient education materials available for the patient. All administrative paper work is done before the patient's arrival to the center for the procedure. The patient is then brought into the waiting room

and allowed to undress and store personal belongings in lockers. The patient is then taken to the IV prep area and given minor sedation and prepared for the procedure. Once the patient is prepared the patient is then taken into the procedure room where the procedure is conducted. There is no shortage of specialized nurses in the procedure rooms and the doctor is catered to in every way so that he can focus on one thing, conducting safe, efficient and mass quantities of GI procedures. This type of facility, based on Ms. Matsuda's experience in running other endoscopy centers in her career, can produce up to 20 procedures a day and up to 5000 procedures per year because of its ability to lessen delays in room turn-over and its ability to perform procedures all day. Once the procedure is complete, the patient is immediately taken to the large recovery area that is staffed with specialized nurses and nurse-aides. The bed awaiting them is warmed by an electric blanket with fresh sheets. There is oxygen at each bed-side and resuscitative and life saving apparatus also by the bed-side. The entire time, the family waits for the patient in the waiting room where they can read educational material about the procedure or magazines of their choice (D. Matsuda, personal communication, 10 Oct 01).

There are other efficiencies that exist at St. Francis. There is a recovery room that is set up with recliners that are available for patients undergoing less complicated procedures. These recliners also have headphones that play soothing music to relax the patient during recovery. They also have state of the art adjustable roller beds in their procedure rooms with foldaway side rails. The center has a highly efficient scope washing room with state of the art Olympus Scope Washers. These washers are able to wash scopes in 20 minutes by using a highly concentrated cleaning agent known as

Cidex. The average time needed for this cleaning procedure is about 50 minutes. This type of cleaning agent does require special air handling measures. The required amount of exchanges are ten per hour based on FDA standards (K. Gurley, Olympus America Inc., personal communication, 26 Oct 01). The facility also has the latest narrow scoping devices that do not cause as much discomfort to the patient. This facility will be a model of efficiency when its doors open (D. Matsuda, personal communication, 10 Oct 2001).

#### New Technology

As was found at St. Francis, new technologies are being used in medicine every day. This is also the case in the GI medical specialty field. One very interesting new development is a new scope that is used for endoscopy procedures. This new scope is extremely small and allows the provider to insert it through the nose and down the patient's throat without sedation. This procedure also reduces the need for recovery and reduces costs because there is no longer a need for conscious sedation (Aviv, Takoudes, Ma, & Close, 2001). This type of technology may alleviate the need for additional recovery staff and extended recovery room hours.

#### Efficiency within the MEDCOM and Lieutenant General (LTG) Peake's Balanced Score Card and Business Case Analysis Initiative

Within the MEDCOM there has been an initiative to recapture workload and operate medical facilities in a more efficient manner. This is based mainly around The Surgeon General of the Army, LTG James B. Peake's Balanced Score Card Initiative and an integrated Business Case Analysis process. LTG Peake realized that we were spending too much of our federal healthcare dollars on our network civilian contracted providers or the Managed Care Support Contractors (MCSCs). The MCSCs

were hired to provide care for our beneficiaries that were being referred outside of our facilities for various reasons. Naturally it is understood by the basic rules of finance that facilities already have large sums of money invested in fixed costs such as labor and facilities and they were not being fully utilized (Finkler, 1994). In fact, facilities within the MEDCOM have been cutting back on ward space but all the while referring care outside our facilities (LTC Dudevoir, personal communication 27 Sept 01). Because of these losses, LTG Peake, and the Tricare Management Activity (TMA) ordered all facilities to work more efficiently in an effort to have a positive impact on the Bid Price Adjustment (BPA). LTG Peake took this initiative so seriously that he talked about the concept and used examples of cases of recapturing workload in his testimony to the Committee on Appropriations, Sub Committee of Defense, United States House of Representatives on 28 Feb 2001 (LTG Peake Testimony, 2001).

The BPA is a payment reconciliation process with the MCSCs and the Tricare Lead Agent that ensures the provision of care for our beneficiaries in each region that cannot handle all workload (O'Neill, 2001; LTC Dudevoir, 2000). In essence, the more workload or patients that we send to the network the more we pay out in our annual bid price adjustment to the MCSCs. The goal of LTG Peake was to minimize this and bring back more funding to the MEDCOM via recaptured workload to our facilities. This new directive was good for business and good for the training of our providers and staff (Dudevoir, 2000; LTC Dudevoir, personal communication, 27 Sept 01). The contracts for care were put in place between the years 1995-1998, the beginning years of Tricare. These "first generation" contracts were five-year contracts, which were reviewed annually (Dudevoir, 2000; LTC Dudevoir, personal communication 27 Sept 01). The



trend that developed was that more care was going out to the network at higher and higher costs to the government. This required constant adjustments to the bid price and ultimately a financial loss to the MEDCOM.

Tying into this new mandate to recapture costs was LTG Peake's new initiative known as the Balanced Score Card (BSC) and the use of the Business Case Analysis (BCA) for all business initiatives (Holt, 2001). Drs. Robert Kaplan and David Norton, professors at Harvard University, developed the Balanced Score Card in 1993 (Kaplan & Norton, 1996). For years, organizations developed business decisions based solely on financial data. This BSC system goes another step; it focuses on four pillars to success of an organization. They are customer knowledge, employee learning and growth, internal business processes, and financial performance. If all four of these pillars are kept in balance then the success of the business initiative and the organization as a whole should be successful (Kaplan & Norton, 1996). This program was first used successfully at Duke University Children's Hospital in 1997. This program, once implemented, saved the organization over 29 million dollars. It also reversed the hospital's 11 million dollar deficit to a four million dollar net revenue and the organization was able to admit more patients (Meliones, 2000). It was LTG Peake's intent for all organizations to develop and experiment with their scorecards and share information and experiences. A baseline format was developed by the MEDCOM for all to use in December 2000 (LTC Dudevoir, personal communication, 27 Sept 01).

#### Purpose

The purpose of this study is to determine if a GI Ambulatory Procedure Center at Tripler Army Medical Center should be developed. This decision to develop this center

is based on the following weighted variables: number of objective bubbles achieved on the TAMC Balanced Score Card Strategy Map, location's effect on other services and the TAMC master plan, ability to expand, most treatment rooms, least construction costs, has a bathroom, most procedures produced, best layout for patients and staff, most storage and administrative space and finally, financial return on investment or cost avoided.

#### Methods and Procedures

The methodology of this study can be broken down into six steps. The focus of this study will be on the GI service. First will be preliminary findings and assumptions made by the GI APC PAT to add focus to the project. Second will be a productivity model based on a study by the TAMC Managed Care Division, Decision Support Branch. Third will be a Break-Even Analysis model and the Business Case Analysis Template that is used for business initiatives within the MEDCOM. Fourth will be a diagram developed for each alternative area for use and its basic proposed layout. Fifth will be a space allocation sheet developed by the Health Financial Management Association that will be used to develop necessary space requirements and costs related to this needed space. Sixth will be a decision matrix with different location choices and weighted variables that affect the ultimate choice of location.

The first step is the development of assumptions and findings by the GI APC PAT. Several meetings have been held and will continue to be held over the course of the project. This team will have certain findings and assumptions that will develop and provide focus for the project. These findings will be related to layout, patient scheduling template, space requirements and cost. This step allows for unnecessary analysis to be

avoided and the focus to be placed on key inefficiencies that need to be fixed within the current system that handle GI APVs.

The second step is the use of a Productivity Model. The Tripler Army Medical Center, Managed Care Division, Decision Support Branch developed the Productivity Model in FY 2000 to retrospectively analyze FY 1999 productivity (see Appendix E; Productivity Model, 2000). This model will show if GI and any other service in question for this type of unit can handle added capacity or recapture workload that has gone out to the network (see Appendix E; Productivity Model, 1999). The model will be based on FY 2000 Medical Expense Performance Reporting System (MEPRS) data. MEPRS provides a standardized method of comparing the cost, personnel utilization and efficiency of the military medical services, in this case GI. It tracks expenses related to operating the facility such as personnel costs, supply and equipment expenses, housekeeping, utilities, TDY and other support costs. These costs are processed against performance factors such as patient visits, occupied bed days, and dispositions. This data is used to determine efficiency, and provide a means to compare TAMC with other Army medical treatment facilities (Knapp, 1999). Uniform Chart of Accounts Personnel System (UCAPERS) feeds the MEPRS system. This system categorizes time and where the employee spends their workday. Clinician time accounting is an important factor under UCAPERS. It is used to account for time so that salaries are appropriately distributed (Knapp, 1999). The MEPRS report, which is fed by UCAPERS, can also show how much clinic time is being spent on outpatient clinic visit and APV's and it can also show how much time is being spent on inpatient visits. This is critical because not all of a doctor's time is dedicated to just one area.

The productivity model will show the total number of Gastroenterologists working in GI in a given period and those that are available for Ambulatory Procedure Visits (see slide 1, Appendix E; Productivity Model, 2000). In the case of this study, data from FY 2000 will be used. This data will be represented by showing available Full Time Equivalents (FTEs) or providers within GI that are available to provide care for MEPRS accounting code BAG5 (Ambulatory Procedure Visits) and BAGA (outpatient clinic visits). This information will be presented in hours spent performing outpatient care. By taking the total of all of these hours and dividing it by 168 FTE hours (168 FTE hours represents the amount of hours in a month that represents one full time equivalent or one full time employee) the result is the total number of FTEs available (Lamar, J., Meyer, G., Jacoby, I., & Potter, A., 1997; Latham, personal communication, 21 Sept 01). This figure will then be divided by the total number of months being analyzed. In this study it will be 12 months for FY 2000. The result will be the number of available FTEs per month for outpatient clinic visits and ambulatory procedure visits out of total FTEs. This figure will then be compared to a total number of FTEs that performed care during that period for all care: inpatient visits, ambulatory procedure visits and outpatient clinic visits. By dividing this FTE figure by the total FTEs, one will develop a percentage of time dedicated to ambulatory procedure visits and outpatient clinic visits.

The second half of the productivity model will show the total number of visits or unique encounters for FY 2000 (see slide 2, Appendix E; Productivity Model, 2000). These total number of visits will come from the Composite Health Care System (CHCS) World Wide Workload Report for FY 2000 (World Wide Workload Report, 2000). The total number of visits is divided by the total number of FTEs available for APVs and

outpatient clinic visits. The result will be a total number of ambulatory procedure visits a provider should see in a period, in this case 12 months. This figure will then be compared to the MGMA benchmarks for GI productivity in an academic setting. In this study, the 90<sup>th</sup> percentile GI benchmark of 2922 visits per year will be used (see Appendix F; MGMA 2000). It must be noted the MGMA standards have been lowered compared to those used in 1999. These benchmarks are now different because they have implemented the requirements put on a clinic in an academic setting. These benchmarks also combine outpatient clinic visits with APVs. This is one weakness of the MGMA benchmarks. The two types of visits are not separated for better accuracy. If the existing GI clinic is more productive than the MGMA benchmarks this does not necessarily mean that new efficiencies cannot be achieved. This will be discussed in this study. It also does not mean that over achievement is bad in a health care setting. The benchmark is there to show the commander where we are in relation to the civilian sector and what we can hope to achieve.

Validity is defined by Cooper and Schindler (2001) as the extent to which a test measures what we actually wish to measure (p. 211). The objective of this study will be to replicate a recognized methodology within Tripler Army Medical Center, Managed Care Division, Decision Support Branch, by using the Productivity Model. The model uses data from MEPRs & CHCS. In this case, the data being used is work hours spent in certain patient care settings (MEPRS) and the number of visits seen in those settings (MEPRS & CHCS). This model focuses on the two key components of productivity. It represents all the relevant items under study. This type of validity is known as Content

Validity (Cooper and Schindler, 2001). The Productivity Model meets the definition of Content Validity because it had the key components of productivity.

Reliability is defined by Cooper and Schindler (2001) as the accuracy and precision of a measurement procedure and its consistency (p. 215). The Productivity Model is reliable because MEPRs & CHCS reports are checked for accuracy on a monthly basis. Military health reporting system administrators/managers and end users perform monthly data quality checks on systems within Tripler on an informal basis and make on the spot corrections to data inconsistency. The data used from MEPRs and CHCS from FY 2000 may have some inaccuracies but it can be accepted as reliable data.

Data quality has received particular scrutiny and emphasis starting in May of 1999 in a General Accounting Office Report (GAO) and the Department of Defense Inspector General found data to be unreliable in military health reporting systems during FY 1998 and 1999 (Clinton, 2000). Also in FY 1999, Dr. Sue Bailey, Assistant Secretary of Defense for Health Affairs implemented a policy for data quality improvement for military health system financial systems (Bailey, 1999). This policy was also followed by a second Data Quality Management Control Program (DQMC) implementation policy memo signed by the new Assistant Secretary for Health Affairs, Mr. Jarret Clinton in November of 2000 (Clinton, 2000). With all this emphasis on data quality, the MEDCOM officially implemented its DQMC system in January 2001. This is now done in the form of the Monthly Data Quality Report by both the system manager and the facility data quality manager. This data quality must also be reviewed by the commander of each facility monthly. Data systems are checked for timeliness, accuracy, completeness and consistency. This data is also compared to 36 other Army treatment

facilities within the MEDCOM. If a facility has skewed information then that facility is focused on for improvement (D. McGue, personal communication, 5 Nov 01; A. Chong, personal communication, 5 Nov 01). The Assistant Secretary of Defense for Health Affairs mandated this report in November of 2000. This program is called the Data Quality Management Control Program (Clinton, 2000).

The third step in the methodology, is the Business Case Analysis format and the application of Break-Even Analysis. The Business Case Analysis format is still being finalized within the MEDCOM. There is one version that was released in December 2000 and an update that was released in May 2001 (LTC Dudevoir, personal communication, 27 Sept 01). The intent is to provide facilities within the MEDCOM a standardized format for taking business initiatives and doing the financial analysis for the project and a three-year pro-forma. Another unique function of the BCA is that it also tied the business initiative to the four pillars of the Balance Score Card. This is done by aligning the initiative with the Objective bubbles that are outlined in TAMC's BSC strategy map (Appendix B; Kaplan & Norton, 1996). TAMC's Resource Management Division developed their most up to date pilot version of the BCA in October 2001 (see Appendix C; Ardner, 2001). This business case analysis is a financial analysis to evaluate the costs and benefits of at least one alternative to the status quo of a specified business practice that is selected for review (Dudevoir, personal communication, 27 Sept 01). These business initiatives are to be submitted to MEDCOM for approval and prioritization for future funding. This prioritization will lay out the MEDCOM's financial scheme of maneuver for the period covering 2003-2007. Currently, the Microsoft Excel

Spreadsheet based format seen in Appendix C, is the accepted standard for the BCA (Ardner, 2001; LTC Dudevoir, personal communication 27 Sept 01).

Behind the Business Case Analysis is a key financial concept. This concept is the Break Even Analysis. The concept is based on the formula  $\text{Total Revenues} = \text{Total Costs}$ . Total costs are made of fixed and variable costs (Austin & Boxerman, 1995). Variable costs are costs that vary over increased volume or workload. Fixed costs stay the same with increased volume. In the case of taking on more workload or a new capital initiative for an organization the combination of new fixed and variable costs is known as marginal costs (Gapenski, 2001) & (Finkler, 1998). This cost of care can be brought back to the organization as new revenue. This is also known as cost avoided in a military treatment facility and new marginal costs can be subtracted from it (LTC Dudevoir, 27 Dec 2001). If revenue or cost avoided are greater than the new costs of doing business then the venture should be pursued. The formula can be further simplified to  $\text{Total Revenue or Cost Avoided} = \text{Fixed Costs} + \text{Variable Costs}(N)$  (Austin & Boxerman, 1998). (N) represents the unknown number of procedures that should be brought into TAMC to break-even or pay for all new costs. Once the break-even point is met, profits can be achieved or in the case of a military treatment facility, money saved to the government. The break-even formula is integrated into the Business Case Analysis Template Version 3.6, appendix G provides an example in action (see slide Funding & Savings Work Sheet, Appendix G; Ardner, 2001).

The Business Case Analysis template in appendix C, slide Funding & Savings Worksheet lays out the costs of currently doing business in the first column titled, Current Funding. This column will show what it requires to run the GI Ambulatory



Surgery Clinic presently based on supplies, capital equipment, labor, contract support, supplemental care and other expenses. This information will be obtained from the GI Ambulatory Surgery Clinic (B\*\*5) MEPRS Step-down Report for FY 2000 (GI MEPRS Step-down, 2001). The step down report will show all the costs related to providing care. There are costs that are directly assigned to the GI Ambulatory Surgery Clinic and those that are assigned based on Standard Element of Expense Code or SEEC codes (D. McGue, personal communication, 5 Sept 01). Supply costs are obtained by taking all the 26.xx SEEC codes. These codes represent supply costs. Labor is taken from all direct military labor and contract labor and all 11.xx codes. Resource support and local contract will be developed by adding all 25.50 SEEC codes. Supplemental care will be added by adding all 25.55 SEEC codes. The remainders of costs are under miscellaneous expenses. These SEEC codes will be reviewed by the GI APC PAT as the main SEECs that fit the description headings the remaining SEECs will be placed under the Miscellaneous heading (see Slide Funding & Savings Worksheet, Appendix C; Ardner, 2001; D. McGue, personal communication, 5 Sept 01).

The following three columns entitled Initiative Requirements, Second Year Phase-In and Third Year Phase-In of the Business Case Analysis, Funding & Savings Worksheet represent the application of the Break-Even Analysis and array this information in a pro- forma or lay down of revenues and expenses over three years (see Slide Funding, Appendix C). The GI APC PAT will select fixed and variable costs related to the development of the GI APC into these columns. These costs will represent the new marginal costs of doing business (Gapenski, 2001; Finkler, 1994). Based on the Department of Defense Financial Management Regulation there are certain costs that

should be considered when bringing new workload into an organization or charging other federal agencies for services with their organization. These are supply costs, labor costs, construction, contract costs, equipment and transportation costs (DOD Financial Regulation, 2001). The GI APC PAT will follow this guidance in developing its marginal costs. First are Supply costs that will be calculated by taking 26.XX total SEEC costs from the MEPRS report and dividing it by a total number of procedures that occurred during FY 2000 (ADS, 2000) & (Olympus, 2000). This will give an average supply cost per case. The total number of new procedures to be recaptured will be multiplied by this supply cost and placed in the Supplies cell of the three-year pro-forma. The next cost, construction conversion, will be only required in the first year of the business initiative. They will be calculated by determining with the chief of facilities the costs related to converting the existing space into a GI APC. Items such as tearing down walls, air handling and utility installation will be considered. This data will be placed in the Capital cell of the first year only. The final cost is new labor costs. An assessment of additional staff that may be needed to streamline operations within the APC will be considered. The annual salaries will be based on the local government pay scales. These pay scales will include Cost of Living Allowances (COLA) (General Schedule, 2001). These labor costs will be required in all Labor cells of the three-year pro-forma (see Slide Funding & Savings Worksheet, Appendix C; Ardner, 2001). In addition to all the costs of doing current business third party and VA reimbursements are represented. This information will be obtained from the TAMC Patient Administration Division, Third Party Claims office for FY 2000 (Keystone, 2000). The VA reimbursements will be obtained from the VA business office located at TAMC for FY 2000 (VISTA, 2000).

The next portion of the Initiative Requirements, Second Year Phase-In and Third Year Phase-In of the Funding and Savings Worksheet is the Cost Avoidance Reimbursable Earnings Sections represented by the Managed Care Support Contract Savings Cells (see Slide Funding & Savings Worksheet, Appendix C; Ardner, 2001). This will be calculated by utilizing information from the Health Net Federal Services (Health Net), 12 month, GI Historical Claims Report for the period January 2000 to December 2000 (Health Net, 2000). This report will have a list of procedures that were sent to the network for care in 2000. It will list procedures by number of procedures, description, CPT code, facility charge and professional fees. From this information a total cost for care will be calculated. By adding total costs and dividing by total procedures an average cost per case can be developed and placed into the MCS Contract Savings cell for all three years of the pro-forma. In addition, the Health Net report will provide a column for other health insurance by taking the total dollars collected and dividing the total dollars paid for care. A percentage of other health insurance can be calculated and applied to the Third Party Collections cell as a planning factor for all three years of the pro-forma (Health Net, 2000). The final portion is the Veterans Affairs cell of Reimbursable Earnings. This will be calculated by utilizing the VA VISTA Report for FY 2000. The Veteran's Health Information Systems and Technology Architecture (VISTA) database is equivalent to our version of the Composite Health Care System (CHCS). This report will show the number of VA procedures by CPT code and description that were sent to the network for care (VISTA, 2000). The Federal Register guidelines for 2001 will be used to calculate actual professional fees also known as Resource Based Relative Value Units (RBRVS) (Federal Register, 2000). Facility fees

will be calculated by utilizing the Complete Guide to Ambulatory Payment Classifications (APCs) for 2001 (St. Anthony's, 2001). The Managed Care Division, VA Joint Venture Office has developed a combined APC and RBRVS charges worksheet specifically for GI APVs by CPT code and description (Combined APC & RBRVS, 2001). By utilizing this worksheet of combined charges it can be applied to a mix of VA procedures (VISTA, 2000). The final dollar value will be placed in the VA reimbursement cells of the three-year pro-forma (see Slide Funding & Savings Worksheet, Appendix C; Ardner, 2001).

A final aspect of the Business Case Analysis, Funding and Savings worksheet, is determining the maximum number of procedures that can be performed within the GI APC. By looking at the current scheduling template that is currently used within GI, this number of visits can be calculated for FY 2000. The APV scheduling template runs from 0800 hours to 1200 hours daily (CPT Vondruska, personal communication, 21 Sept 2001). During this time there are two providers performing visits or cases. By looking at the average number of visits per provider an average number of visits per hour will be developed. Potential efficiency gains will be determined by the implementation of a recovery room. These efficiency gains will be represented in freed up patient care time per day. This time and multiplied by available clinic days in a year, will result in the number of additional visits or procedures that can be recaptured. (Olympus, 2000; ADS, 2000; MEPRS Step-down, 2000). This number of procedures will represent the estimated maximum number of procedures that will be performed if the GI clinic is moved to a new location and projected efficiencies are achieved.

By calculating these sections of the Business Case Analysis Template, Funding and Savings Worksheet, the break-even point can be calculated, and different mixes of TRICARE Prime procedures and TRICARE Prime and VA procedures will be calculated. The commander will determine which mix of procedures will be selected for the final venture. The selected volume and mix of procedures and their costs avoided and marginal costs will be entered into the final BCA template that is submitted to the MEDCOM.

The business case analysis will only work if a need is determined (LTC Ardner, personal communication, 15 Oct 01). It must be validated that workload exists to be recaptured and what we are paying for this care. The study will also utilize data from the CHAMPUS/TRICARE Utilization Reporting & Evaluating System (CURES) database for FY2000 (CURES, 2000). This database is an online database that reports by CPT code and description, which procedures were sent to network providers for care. It also gives costing data for professional fees paid by TAMC for this care. The importance of this report will be to show by group, which patients went outside TAMC for care. The report will help in validating the number of procedures found in the Health Net Report. These groups will be broken down into Tricare Prime, Tricare Extra and Tricare Standard procedures.

The GI APC PAT will be concerned with using the Tricare Prime procedure numbers since the organization cannot count on recapturing the Extra procedures and Standard procedures because they prefer to utilize civilian providers for care (M. Latham personal communication, 27 Aug 01). CURES historical GI claims reports are based on 18, 24, and 36 months worth of claims data. The more time that passes to allow claims to

come in, the more accurate the report (K. Nihlan, personal communication, 26 Sept 01; CURES User Tip Guide, 16 Mar 01). The most current FY 2000 CURES Report will be used for this study.

The recapture of Standard and Extra procedures should not be ignored. It should be TAMC's goal to always try to bring these patients back to the facility for care. This could of course be addressed in the organization's marketing program. When performing a Business Case Analysis, Prime procedures will be the procedures our plan is based on and the dollar value attached to these procedures will be used in our calculations as cost avoided (M. Latham, personal communication, 27 Aug 01).

Validity is defined by Cooper & Schindler (2001) as the extent to which a test measures what we actually wish to measure (p. 211). The objective of this portion of the study will be to replicate a recognized methodology within the MEDCOM and Tripler Army Medical Center: the Business Case Analysis Template and the healthcare industry's accepted methodology of Break-Even Analysis (Ardner, 2001; Austin & Boxerman, 1998). The model will use data from MEPRs, Health Net, TAMC Third Party Collections, GI Olympus Data, TAMC Ambulatory Data System (ADS) and the VA's VISTA Report to accomplish this. In this case, the data being used is number of visits, procedures, professional and facility fees or costs, third party reimbursement dollars, supply costs and labor costs related to care. These business models represent all the relevant items that will be needed to conduct a proper business analysis and breakevn analysis. Having all the relevant items is known as Content Validity (Cooper and Schindler, 2001). The Business Case Analysis format and Break-Even Analysis are the

best methods to use that meet Content Validity because they have all the necessary components needed to determine if a business venture will more than likely be a success

Reliability is defined by Cooper and Schindler (2001) as the accuracy and precision of a measurement procedure and its consistency (p. 215). The results of the Business Case Analysis Template and Break Even Analysis methodology are valid because the FY 2000 data from MEPRs, ADS, Olympus, and Third Party Collections reports are checked for accuracy on a monthly basis by system managers and users. Data systems are checked for timeliness, accuracy, completeness and consistency (D. McGue, personal communication, 5 Nov 01) & (A. Chong, personal communication, 5 Nov 01).

The Health Net report is also checked for reliability by the Health Net office and the Tricare Lead Agency on a monthly basis (S. Martin, personal communication, 5 Nov 01). The VA VISTA report is also reviewed on a monthly basis by the local VA business office. The VA also has requirements from Veterans Affairs to check data quality (J. Mitson, personal communication, 5 Nov 01).

It must also be noted that users of these reports also assist in the validation process. If glaring inconsistencies are found in these documents, the user often makes on the spot corrections with the system manager. (A. Chong, personal communication, 5 Nov 01).

The fourth and fifth steps will be that location options will be developed. There are several locations that exist in the facility for consideration. These areas will have a floor plan developed for each (step 3) (see Appendix H). Each area will have certain minimal selected work areas that will be predetermined by the GI APC PAT like a reception area, prep area, procedure rooms, and a recovery area. There will also be a

HFMA space allocation/requirements sheet (step 4) that will be filled out and the required space calculations will also be placed in the matrix (see Appendix I; HFMA 1997). This space matrix assigns a certain amount of square footage based on historical data required for each area. For example, each procedure room requires a certain amount of space. This matrix arrays this data in a logical format and produces a total amount of square footage required. These space requirements will also have an attached cost to them that will be placed in the matrix and will also be worked into the breakeven analysis portion of the methodology. As a final note, the space allocation sheet will be used for only absolutely necessary space. The sheet was designed to plan for large stand-alone facilities. Only a portion of the recommended requirements will be used.

The sixth step will be the implementation of a Decision Matrix in the selection process of a course of action. This matrix will be finalized in close coordination with the GI APC PAT (see Appendix J; Decision Matrix, 2001). It will be approved by COL Vincent, Chief of the GI APC PAT. The best course of action will be based on weighted variables or selection criteria. Each course of action will be ranked based on alignment with the objective bubbles located on the strategy map of TAMC's Balanced Score Card (see Appendix B; Kaplan & Norton, 1996). Each alternative will have bubbles selected for each to help in determining the best course of action. The most bubbles elected will strengthen the alternative. There will also be additional weighted variables. The location's effect on other services and the TAMC master plan, ability to expand, most treatment rooms, lowest construction costs, has a bathroom, most procedures produced, best layout for patients and staff, most storage and administrative space and finally, financial return on investment or cost avoided. These weighted selection criteria are



placed in a Decision Matrix (see Appendix J; Decision Matrix, 2001). The lowest combined score will determine which course of action is the best for TAMC. The GI APC PAT determined the weighting of the variables. Additional variables may be added to the Decision Matrix and the weighting may be adjusted by the commander and affect the selected course of action.

Validity is defined by Cooper & Schindler (2001) as the extent to which a test measures what we actually wish to measure (p. 211). The objective of this portion of study will be to replicate a recognized methodology within the Army, the MEDCOM and Tripler Army Medical Center; the Decision Matrix. The Decision Matrix is valid because it is an accepted tool for decision support in the Army. It is taught at the Combined Arms Staff and Services School, Ft. Leavenworth Kansas (Decision Matrix, 2001). Utilizing pre-selected variables or criteria and weighting them further validate this matrix. These variables will be reviewed by the GI APV PAT and will be finalized by the commander. These variables will be integrally related to the development of a GI APC at TAMC. This decision support model represents all the relevant variables that effect the decision to develop a GI APC. This type of validity is known as Content Validity (Cooper and Schindler, 2001). The Decision Support Matrix is the best method to use that meets the Content Validity definition because it shows the required weighted variables and their effect on several courses of action.

Reliability is defined by Cooper and Schindler (2001) as the accuracy and precision of a measurement procedure and its consistency (p. 215). The Decision Matrix is a reliable tool because the matrix involves the preselected weighted variables that are based on years of experience and school training related to Gastroenterology and Facility

Engineering. Each member of the GI APC PAT has at least 10 years of experience in the health care field; and most also have the same level of experience working with Gastroenterology or Facility Engineering. The recommended weighted variables will be considered and selected based on needs of the patient, family member, staff and in the best interests of TAMC.

#### Expected Findings and Utilities of Results

From this study the researcher expects to determine whether or not the development of a GI APC is in the best interest of the organization. The study will show current productivity levels for the GI service and the procedures that are being referred to the civilian network based on historical paid claims reports. The study will also show which mix of procedures is best for TAMC and the exact break-even point that will be required. The study will also be able to predict when each mix of procedures will become cost effective for the organization and the total cost avoided for the organization over a three-year period. The study will show which of the Balance Score Card Strategy Map objective bubbles are met by the each course of action. It will also show which course of action is the best alternative based on weighted variables in a Decision Matrix. It will also outline additional areas for future study that are discovered.

#### Results and Discussion

##### Steps 1, 4 & 5: Results of Assumptions, Available Space, Space Allocation Worksheet

The GI APC PAT conducted several meetings during the development of this project. These results of these meetings combined Step One: Development of

Assumptions, Step Four: Consideration of Available Space and Step Five: The Space Allocation Worksheet.

Step One: Assumptions had certain results. The first set of assumptions that had to be made by the PAT were in regard to the appointment template. The first issue that was discussed was the daily appointment template. The GI clinic provides ambulatory procedures from 0800-1200 hours daily (this schedule is flexible but for the most part accurate). The remainder of the day is dedicated to outpatient visits where initial consults and procedural follow-ups occur. This template has usually two of three full time providers seeing patients for ambulatory procedures. The other provider normally conduct follow ups, medical education and preparations for afternoon emergency procedures. The two perform and average of four procedures a day by utilizing three procedure rooms. Each room is being utilized on a staggered time frame leaving the third room for turnover. The average amount of time needed for a procedure is one hour. This estimate also includes transfer time to a recovery room located on the sixth floor, the Post Anesthesia Care Unit (PACU). This is based on observations by the researcher during the month of November 2001. Unfortunately, the existing GI center is tied to the schedule of the PACU which closes at 1530 hours daily. Because of this, the GI clinic has made their template in the morning from 0800 to 1200 hrs in order to perform as many procedures as possible. It must be understood that because of the staggering of procedures, procedures do often go past 1200 hours. There is also a slight problem with time lost conducting transfers to and from the GI clinic, which is located on the fourth floor to the PACU, which is on the sixth floor of the hospital. The average time spent on a transfer is about 15 minutes. The GI APC PAT came to the conclusion that this dependence on PACU for

recovery services was the main bottleneck in the operation and has caused inefficiencies to exist. In addition, the minimal numbers of procedure rooms was not sufficient to stop gaps in providing continuous procedures. It was estimated by the GI APC PAT that by having internal recovery services and additional procedure rooms, at least one hour of ambulatory care could be recovered by not having to move patients. By taking 15 minutes of saved time per hour over a four hour template, this produces one hour of free ambulatory care time. By multiplying this number by the two available GI providers and 240 annual clinic days, it was deduced that 480 additional visits a year could be conducted a year if recovery services and additional procedure rooms were added to the unit. With the addition of these resources procedures would no longer have to be limited to an 0800-1200 hours template. This template could now be expanded at will also adding the potential to do even more procedures if adequate staff were provided (COL Vincent, personal communication; 21 Sep 01; CPT Vondruska, personal communication, 21 Sep 01; MAJ Ramos, personal communication, 21 Sep 01 & MAJ Baroni, personal communication, 21 Sep 01).

The GI APC PAT also developed a conversion factor that converts visits to procedures. The PAT made the assumption that these 480 visits could be converted to an exact number of procedures a year. Each APV can consist of multiple procedures. Based on fiscal year 2000 MEPRS and ADS data, it was found that 1315 visits were performed in the GI clinic this equated to 1437 procedures (ADS 2000; Olympus 2000 & MEPRS Stepdown, 2000). Based on this information, a conversion factor from visits to procedures was developed. By taking 1437 procedures and dividing it by 1315 visits a 1.09 conversion factor was developed. This conversion factor was then multiplied by the

480 thus resulting in 523 procedures. This number of procedures was the maximum number of additional procedures that could be recaptured by the GI clinic staff (G. Christal, personal communication, 21 Sep 01).

The next set of assumptions and estimations that were made were related to layout and space of the center. It was agreed that the facility should have a similar design to that found in appendix D. This basic design is set up for an Ambulatory Procedure Center that could accommodate surgeries. The GI APC liked the concept of having procedure rooms, a nursing control station, a waiting room, prep rooms and a recovery lounge (see appendix D) & (Billig, 1997). This was further solidified when the GI APC conducted its visit to the Hawaii Endoscopy Centers, St. Francis facility on 10 October 2001. The group unanimously agreed that a large shared recovery room, a minimum of three procedure rooms, a waiting room, a dressing room and prep area would be the goal or standard that would be achieved in the development of the Tripler GI APC (COL Vincent, personal communication, 10 Oct 01).

This type of layout would need a certain amount of space. By utilizing the Surgery Area Space Allocation Worksheet seen in appendix I, approximately 3700 square feet was found to be the requirement for a three procedure room single specialty Ambulatory Procedure Center (see Appendix I). Based on the experience of the authors of this form, they recommend an additional 40% be added to the total for patient and staff circulation purposes (Billig, 1997). This resulted in a requirement of 5,198 feet, if space was not an issue. It was also brought to the attention of the GI APC PAT that new construction costs for a stand-alone facility or any type of major conversion work within Tripler could cost up to 250 dollars per square feet. For a 5,000 square foot facility it

could cost over one million dollars. In addition to this figure, there would be an additional 15% of the total cost added for architectural design (M. Lau, personal communication, 19 Sep 01). It was agreed that the facility would have to be built within TAMC. In addition, the visit to the Hawaii Endoscopy Centers, St. Francis facility proved to the GI APC PAT that it was possible to perform the GI mission in a space of about 3,000 square feet (D. Motsuda, personal communication, 10 Oct 01). This was a hidden blessing because the available spaces at TAMC for a center were all between 2,500 and 4,000 square feet (T. Butler, personal communication, 2 Nov 01). Keeping all of these variables in mind, the GI APC PAT concluded that it would be limited in space availability inside Tripler and that a stand alone facility was out of the question at the present time. It would be in the best interest of Tripler to develop a facility within the facility walls and have the least amount of construction conversion expense.

In addition to patient scheduling templates, layouts and space, there was one final area that needed to be analyzed. Assumptions had to be developed on the manpower needs for this added capacity of patients. It was already known that in FY 2000 that 1437 procedures and 1315 APVs were performed in the GI clinic. The current staffing for this workload was 3 full time staff Gastroenterologists, two Registered Nurses (RNs) and five resource sharing Liscenced Practical Nurses (LPN). With the addition of the recovery room mission it was assumed that a two additional LPNs would be able to take on the duties related to helping patients in recovery, additional scope washing and room turn over requirements (COL Vincent, personal communication, 10 Oct 01). The selection of the limited skills of an LPN was based on the fact that only conscious sedation is used for GI procedures. Observation would be the main mission in the recovery room and the

skills of the RNs and Gastroenterologists would be used if complications developed (TAMC Regulation 40-32, 1998).

### Discussion

These assumptions and estimations were of course not iron clad. A baseline or starting point was needed. As the meetings were conducted steps one, four and five seemed to flow together. Minor adjustments could be easily be made to each of the areas: space, number of recapturable procedures/visits, added staffing, and layout design.

### Step Two: The Productivity Model

The second step was the use of a productivity model developed by Managed Care at TAMC. The results of this model can be seen in appendix K, slide one and two (see Appendix K; Productivity Model, 2000). According to the FY 2000 UCAPERS Report, there were GI providers who performed outpatient, inpatient and ambulatory care throughout the year (UCAPERS, 2000). The total of these hours for ambulatory and outpatient care was 3669.15 hours. This number was divided by 168, which represents the number of hours of labor required to equal one full time equivalent (FTE) or one full time employee the result is 21.84 FTEs dedicated to outpatient and ambulatory care a year. By dividing this number by 12 months, 1.82 FTEs are dedicated per month to this type of care. This number is out of a possible 2.91 FTEs per month or 62 percent of available time. Another portion of .57 FTEs or 20 percent of the time is dedicated to inpatient care. The remaining time was dedicated to other areas like education and field exercises (see Slide 1, & 3, Appendix K; Productivity Model, 2000).

The second slide of appendix K shows the productivity of the providers related to outpatient and ambulatory care (see slide 2, Appendix K). There was a total of 7325

outpatient and ambulatory visits during FY 2000. By dividing this number by 12 months and dividing it by 1.82 FTEs and multiplying by 12 months again, the result is 4024.73 visits per year. This number can be compared to the 2000 MGMA benchmarks for GI productivity in an academic teaching setting in the top 90<sup>th</sup> percentile (see Appendix F; MGMA, 2000). The GI clinic's 4024.73 visits was compared to 2,922, the MGMA national average of visits in the 90<sup>th</sup> percentile. The results surpassed the civilian sector's highest benchmark.

### Discussion

The results show that the providers in the GI clinic were very productive compared to national standards. Although the GI clinic in FY2000 surpassed national standards, the GI APC PAT believed that they could produce more visits a year by the simple efficiency gain of adding a recovery room, procedure rooms and staff. The researcher felt that it was important to explain that the GI staff is very productive and there is good reason to not overestimate the added workload that can be taken on. The GI APC PAT and the researcher felt that 523 procedures or 480 visits was a conservative objective that could be achieved (COL Vincent, personal communication, 21 Sept 01). In addition the researcher found the 2001 MGMA Ambulatory Surgery Center Survey Based on 2000 data. In this report, for a small single specialty GI center, it recommended that up to 8,136 ambulatory procedure visits were conducted on average per year in the upper 90<sup>th</sup> percentile of centers and 2340 ambulatory procedure visits were conducted in the lower 25<sup>th</sup> percentile of centers. This aspect of the survey was based on data from 12 single specialty GI centers in the United States (MGMA Ambulatory Surgery, 2001). When comparing this to the 1315 ambulatory procedure visits a year at TAMC's GI



clinic, the researcher found that we could possibly more productive (MEPRS Report, 2000). It also must be remembered that these clinics in the survey do not have military and academic requirements placed on its providers.

### Step 3. Business Case Analysis Template and Break Even Analysis

The third step of the methodology was the Business Case Analysis Template and Break Even Analysis. Several probable numbers and mixes of patients were developed and placed in the Business Case Analysis Template (see Appendix L; Ardner, 2001). These scenarios were developed to show the commander different probable options. The first option develops the Break-Even Point with strictly 452 Tricare Prime procedures. The first column entitled Current Funding, lays out what the current costs were to produce the 1437 procedures a year during FY 2000. During the year it cost the government 773,566 dollars based on the annual MEPRS Stepdown Report for FY 2000 (MEPRS Stepdown, 2000). Also during that year, 50,950 dollars were collected from Third Party Collections during (Keystone Report, 2000). Thus the final expenditure for the year was actually 722,617 dollars to provide care in the GI clinic. This amount for the Current Funding cell is the same for each scenario and does not change. The remainder of the template lays out a break-even volume that would be required to pay off the costs of developing a GI APC in the first year. This is done by laying out expenses and revenues for a specific volume over three years. It was found in appendix M, the Calendar Year (CY) 2000 Health Net Report that Tripler sent 239 procedures to the network for care at a value of 169,135.43 dollars (see Appendix M). By dividing these figures, an average cost of 707.68 dollars is developed per case. This is the amount that is multiplied in the volume required cell, thus resulting in a cost avoided amount of

255,897 dollars per year. It must be understood that this amount would be a larger figure of 319,871.36 dollars. Unfortunately, it only represents 80 percent of actual fees that can be recaptured by Tripler. The remaining 20 percent must be given back to Health Net Federal Services (Health Net), the Managed Care Support Contractor (MCSC) (S. Martin, personal communication, 20 Feb 02). This action occurs annually at the Bid Price Adjustment negotiations. The MCSC is actually taking on more risk of losing money so we must pay them for this lost workload (LTC Dudevoir, personal communication, 27 Sept 01). Additional cost avoided is added by a 10.63 percent rate for other health insurance. This rate was developed based on historical average amounts recaptured in the CY 2000 Health Net report (see Appendix M). This cost avoided is compared to expenses that are required to develop and staff the GI APC. These costs are supply costs rated at 89.07 dollars per procedure based on FY2000 annual MEPRS supply costs (MEPRS Stepdown, 2001). The total supply costs would be 40,257 dollars a year for 452 recaptured procedures. The other expenses are additional nursing expenses. In this case, two Licensed Practical Nurses (LPN) would be needed to fill the added requirements of a recovery room and additional procedure rooms. The GI APC PAT decided to utilize the construction conversion costs related to converting the space located on the sixth floor which would cost approximately 175,000 dollars and the use of two GS-5, Step-One LPNs salaries with 25 percent added for cost of living expense. These costs are of course examples of what could be and do not represent reality and based on recommendations of TAMC experts to establish a baseline for consideration (M. Lau, personal communication, 19 Sept 01; General Schedule, 2001 & COL Odegard, personal communication, 5 Feb 02). Thus, the total expenses are 283,470 dollars in the

first year and 108,470 dollars in the following years because the construction would be paid for. When these expenses are subtracted from the estimated cost avoided, the breakeven point or volume occurs at approximately 452 procedures a year and produces a net cost avoided after expenses of 348,887 dollars over a three year period. The breakeven volume would change if the number of nurses or the amount of construction cost would change (see Sheet 1, Appendix L).

The next scenario looked at recapturing only the 239 procedures that were sent to the network in FY 2000 (see Appendix L). This scenario would represent the lowest number of possible procedures that could be recaptured based on historical data from CY 2000 Health Net report (see Appendix M). The same average cost per procedure of 707.68 dollars was used and it was found to equal 135,308 dollars. This amount is based on an 80 percent risk sharing factor (LTC Dudevoir, personal communication, 27 Sept 01). A portion of this cost avoided would be attributed to 10.63 percent for other health insurance, equaling 14,383 dollars. The combination of these two figures was found to equal 149,692 dollars thus representing the total cost avoided per year. From this amount, was subtracted the supply costs which were now a much lower figure of 21,287 dollars, the same construction costs of 175,000 dollars and LPN costs of 68,213 dollars a year. Unfortunately, the project did not pay itself off in the first year, but rather in the second year. The net cost avoided for this scenario is 5,578 dollars. This scenario presents the worst case scenario, or the lowest amount of expected procedures that can be handled by the GI APC staff and it is still able to pay for itself in the second year (see Sheet 2, Appendix L).

The next scenario that is presented is 523 procedures, the maximum number of procedures that could be performed based on the GI APC PAT's earlier analysis. By taking 707.69 dollars and multiplying it by 523 procedures the cost avoided would be 296,093 dollars. This amount is based on an 80 percent risk sharing factor (LTC Dudevoir, personal communication, 27 Sept 01). It is added to 10.65 percent for other health insurance which equals 31,475 dollars. The total of these two amounts is 327,568 dollars. This cost avoided was then compared to the expenses of the taking on the new workload. These expenses consist of 175,000 dollars for construction, 68,213 for two LPNs and 46,581 dollars in supply costs. The total expenses are 289,794 dollars. This scenario results in the project paying for itself in the first year. It will also result in an estimated net cost avoided of 463,323 dollars over a three-year period (see Sheet 3, Appendix L).

The final scenario that is presented is also 523 procedures, but in this case, the GI APC PAT recommended we share capacity with the VA. Tripler would take on 239 procedures and the VA would be provided with 284 procedures. It was found that the VA sent approximately 452 procedures to the network for care during FY 2000. Their need is as great as Tripler's (VISTA, 2000). In this scenario our GI staff would assist the VA providers in performing these procedures in exchange for professional fees (Resource Based Relative Value Units (RBRVS) and facility fees (Ambulatory Procedure Codes (APC) (Federal Register, 2001). A basic spread of procedures was developed based on the same spread found in the Health Net Report and predetermined rates in the Federal Register, 2001 were applied to each procedure (see Appendix M; B. Horner, personal communication, 21 Nov 01 & Federal Register, 2001). These rates are normally paid to

Tripler by the VA when facilities, equipment and staff are supplied to perform GI procedures for the VA (B. Horner, personal communication, 21 Nov 01). The amount that would be paid to Tripler for 284 procedures would be 193,292 dollars. This amount is in turn added to the remaining 239 procedures that would be set aside for Tripler valued at 169,135 dollars. The total value of the two sets of procedures is 323,761 dollars, this amount is developed after applying the 80 percent risk sharing factor (LTC Dudevoir, personal communication, 27 Sept 01). It must be noted that about 10.65 percent of this figure would be paid by other health insurance representing 34,416 dollars a year. The sum of these two amounts is 358,177 dollars representing total costs avoided. Subtracted from the total cost avoided is the supply costs equaling 46,581 dollars, the construction costs are 175,000 dollars and the two LPNs at 68,213 dollars. The total of which is equal to 289,794 dollars. In this scenario the sharing of 523 procedures pays for itself in the first year and provides a net cost avoidance of 555,151 dollars over three years (see Sheet 4, Appendix L).

#### Discussion

The GI APC chose to use a series of scenarios based on a set location, staffing, supply, and construction costs related to each scenario. Slight variations in these requirements would change the break-even points. Also delays caused by construction time and actual start date of recapture could change the breakeven volumes and overall net cost avoided over a three-year period. The intent behind these results is to show generally when each number and type of patients will pay for itself based on an acceptable set of expenses. It is the belief of the GI APC that the command should focus on recapturing the minimum 239 procedures a year with a goal of pursuing up to 523

procedures a year. The commander will have to make the decision whether to share remaining capacity with the VA (COL Vincent, personal communication, 21 Sept 01). The VA could also be given a procedure room to operate on its own with their own staff and perform as many procedures as it can handle and be required to pay an APC or facility charge per procedure (COL Vincent, personal communication, 25 Jan 02).

As a point of validation, the GI APC PAT looked at the CHAMPUS/TRICARE Utilization Reporting and Evaluating System (CURES) Annual Report for FY 2000 with a 24-month claims collection period. In this report, it was found that 102 Tricare Prime procedures were sent downtown to the network (CURES, 2000). The report for FY 2001 showed 354 Tricare Prime procedures (CURES, 2001). This report represented a 15 month collection period. It cannot be explained why the CURES Report did not match the Health Net Report. The Health Net Report is believed to be far more accurate by the researcher. This is due to the fact that Health Net must keep very accurate records of claims in order to avoid any fraudulent claims for payment (S. Martin, personal communication, 26 Sept 01). Another reason that the CURES report may not be accurate is the fact that claims can take up to 36 months to come and that all the paid claims are not represented on the report (K. Nihlan, personal communication, 26 Sept 01; CURES User Tip Guide, 2001). A final reason is that the CURES Report represents FY 2000 and technically the Health Net Report represents data from Calendar Year 2000 so there may be some disparity between the two data reports.

Another interesting observation is that the researcher was able to obtain a CY 2001 Health Net Report for the period Dec through Aug 2001. It showed 360 procedures that were paid for during this period. It appears that the data for both the CURES report

and Health Net report for 2001 maybe be more accurate due to the fact that the numbers of procedures between reports are more similar (Health Net, 2001).

A new report presented itself during the closing period of the study. This report is known as the ARS Bridge Report. Unfortunately our Decision Support Staff at Managed Care has just received training on how to use and interpret data. The ARS-Bridge is a data pulling system that is capable of pulling data from the same database as that Health Net uses to pull data much like CURES. This database is known as the Palmetto Group Benefits Association (PGBA) Data Warehouse (S. Martin, personal communication, 01 Mar 02). The database contains data related to claims and procedures that were done in the network and what was billed for these claims and what the government allowed to be paid. This report is slightly different from the Health Net Report in that it shows Tricare Prime active duty family members, non-active duty family members and active duty service members that also went to see network providers. This report proved that the data in the Health Net was relatively accurate. This report is very similar to the Health Net report in that it shows what claims were paid in the network. The report actually shows active duty soldiers procedures or claims in addition to the family members procedures or claims that went to the network for care. The only negative thing about this report is that it did not show the facility fees that were paid to the network providers and third party insurance that would be paid. These would have to be estimated in future studies if this report were used as a source. For FY 2000 it reported 165 Tricare Prime procedures that were sent downtown for care (ARS Bridge Report, 2000). For FY 2001, it reported 313 procedures that were sent downtown (ARS Bridge Report, 2001; CPT Horne, personal communication, 4 Feb 02). Although the report did not present exactly the same numbers

as the Health Net Report it does confirm that there were a large number of procedures being sent to the network and that the number of network referred procedures has been on the rise in the GI clinic. The researcher did have some concern as to why the data was not exactly the same between the two reports. The researcher felt that the Health Net Report was more accurate because Health Net is a for profit organization that must keep accurate record of its billed and paid claims in order to avoid any type of fraudulent claims or misrepresentation of the facts. Health Net also has more experience as the MCSC in tracking paid claims in the network (S. Martin, personal communication, 20 Feb 02). The researcher specifically felt that the ARS Bridge and CURES Report Data for FY 2000 was suspect and that it was more conservative to utilize the Health Net report. For future study it would be interesting to look closer at the FY 2001 data which seemed to present larger volumes of procedures and in all three reports (CURES, 2001; Health Net 2001, & ARS Bridge 2001).

Another interesting point that must be mentioned, is the fact that the researcher also utilized the Tricare Referral Report for FY 2000 and 2001. It was found that for FY 2000, 578 patients were referred downtown for care (Tricare Referral Report, 2000). During FY 2001, 1171 TRICARE patients were send downtown for care (Tricare Referral Report, 2001). It also confirms that we are losing large amounts of workload downtown. Another interesting issue that concerned the researcher and the GI APC PAT was the unknown reason why all of these referrals did not turn into procedures. One can only speculate that possibly the patient lost their nerve, didn't have enough money to cover additional costs downtown or just did not feel comfortable with the thought of getting a GI procedure (COL Vincent, personal communication, 28 Jan 02). These



referral reports prove that we are definitely losing workload and also if we could find a way to perform more procedures within the facility, patients would be more likely to get the procedure done thus improving overall access and quality of care. This large number of referrals also made the GI APC PAT feel more comfortable that pursuing a conservative figure of up to 523 total procedures or 480 visits a year could actually become a reality (COL Vincent, personal communication; 21Sep 01; CPT Vondruska, personal communication, 21 Sep 01; MAJ Ramos, personal communication, 21 Sep 01 & MAJ Baroni, personal communication, 21 Sep 01).

#### Step 6, The Decision Matrix

The next step was the Decision Matrix. There were four alternatives that were considered and briefed to the commander. Each alternative was based around location and the five criteria that each area met. The four locations were maximum number of procedure rooms, on site recovery, costs to remodel, time to implement, flexibility or ability to expand, and disruption to normal operations within Tripler. The intent was to develop a matrix with the results for the commander. The commander could in turn apply a weighting to each criteria based on current priorities. The matrix that was briefed to the commander can be seen in appendix O (DECMAT, 2001; see Slide 11, Appendix O).

The first alternative was the current location which is the GI Clinic, located on the fourth floor, H wing of the hospital. This area has three procedure rooms. It does not offer on site recovery. It is very cramped and does not provide the ability for expansion or development of recovery services, thus its conversion cost is zero. Time to implement is not applicable because the current location cannot be expanded. Flexibility of this does

not exist because it cannot expand and only so many procedures can be performed in this area. Finally, disruption does not exist because this area is already set up and procedures are being performed.

The next alternative is the critical care administrative area located on the sixth floor C wing. This area has the potential to develop five procedure rooms. There is also the ability to expand two of the rooms at this location and develop an on site recovery room. The remodeling cost related to this area would be approximately 150,000 dollars (M. Lau, personal communication, 21 Sep 01). For this cost the site would receive a new nurses station, a point of use medication and supply dispensing unit, recovery room by means of removal of a wall, installation of equipment washing room with ventilation. This location is viewed as the quickest to implement and could potentially be put into operation within three to six months. This location is considered the least flexible after the current location because it is somewhat cramped and does not provide a great deal of space for circulation of both patients and staff. This area unfortunately only provides 3,197 square feet with a rather narrow corridor that has a horseshoe shape. The selection of this area would cause lasting disruption because the Critical Care nursing staff would be forced to move into a much smaller space, the former Pediatrics Intensive Care Unit (PICU) located on the same floor (see Slide 1, Appendix H).

The next area is known as the 1984<sup>th</sup> Reserve Component space located on the 5<sup>th</sup> floor, C wing. This area is to soon be vacated. This area could also provide up to five rooms. It also has enough available space for a large recovery room. Remodeling costs would be approximately 750,000 dollars. This area is rather expensive to remodel due to the fact that the area a very large open space that would need major design and

construction, room partitioning, it would need the installation of a bathroom, a nurse station, point of use medication and supply dispenser, development of a recovery room, and installation of a washer system and ventilation. This area unfortunately would take the longest time to implement and would take at least two years before it could be fully functional. Once complete, this area would provide more flexibility than the Critical Care Administrative area because it could accommodate a large number of patients and provide a more spacious area with adequate circulation. The square footage in this area is approximately 2,834 square feet (T. Butler, personal communication, 6 Feb 02). This location would have the least disruption to the organization due to the fact that it is not a patient care area currently and is soon to be vacated anyway (see Slide 2, Appendix H).

The final area for consideration is the Quality Service Division (QSD) work space on the ninth floor. This area could also provide up to five rooms. It also has enough available space for a large recovery room. Remodeling costs would be approximately 200,000 dollars. This area is a bit more expensive than the sixth floor area to remodel due to the fact that ventilation would need to be installed and the work-space above the temporary ceilings is very confined and hard to work in compared to other floors. The area has very spacious rooms that were once used for patient care. In fact it was once an Orthopedic Clinic (T. Butler, personal communication, 6 Feb 02). The concept would be much like the others to have up to five procedure rooms, a large recovery room and a bathroom. It would require the removal of a wall, point of use medication and supply dispenser, development of a recovery room, and installation of a washer system and ventilation. This area unfortunately would take slightly longer than the Old CCU to implement but not as long as the 1984<sup>th</sup> space and could take at least two years before it

could be fully functional. Once complete, this area would provide more flexibility than the Critical Care Administrative area because it could accommodate a large number of patients and provide a more spacious area with adequate circulation. The square footage in this area is approximately 4,203 square feet (T. Butler, personal communication, 6 Feb 02). This location would have some temporary disruption because the QSD staff would have to move to the 1984<sup>th</sup> space and there would be remodeling and movement costs. Fortunately this movement and disruption would be temporary (see Slide 3, Appendix H).

#### Discussion

This non-weighted decision matrix was briefed to the commander (see Slide 11, Appendix O). Based on this information, the commander decided that it was necessary to look deeper into the ninth floor option in the QSD area. The commander felt very strongly that certain variables needed to be weighted in the consideration process. First was the flexibility as her most important interest; she felt that the ability to expand for future growth was vital to the success of this plan. Second was on site recovery; there had to be the existence of on site recovery. If there was no on site recovery it would not make sense for the clinic to move at all. Third was cost; she felt that the cost of the center was important and needed to be considered. Fourth was time to implement; this was somewhat important but not absolutely vital. It was more important to prepare a solid plan and implement as time allowed. Finally was disruption, the commander was not extremely concerned with the fact that QSD may have to move its offices to the 1984<sup>th</sup> space, in fact her communication to the GI APC PAT was that she wanted to recapture administrative space for clinical space. Another comment made by the general was that she did not like the use of the sixth floor option, Old CCU Administrative space.

She did not like this option because it would allow ambulatory patients and their family members to be cared for in the same area as patients being seen in an intensive care setting. This was considered a wise observation by the GI APC PAT (COL Vincent, personal communication, 6 Feb 02). The commander's observation was based on her years of experience as a nurse and was not considered by the GI APC PAT before (MG Adams, personal communication, 28 Jan 02). The weighted criteria were now determined by the commander.

It must also be noted that consideration was given to each of the alternatives and whether or not each alternative aligned with the Balanced Score Card and the Strategy Map of the organization (see Appendix B). It is a requirement for any Business Case Analysis to be aligned with the Balanced Score Card (TAMC FY 04-09 POM Submission Guidance, 2001). Each alternative has strengths and weakness but each aligns generally with the Balanced Score Card , some more than others.

Each alternative focuses on some elements of focusing on our customers/stakeholders, the first pillar of the Balanced Score Card. It was felt that each of the alternatives met the following objective bubbles of the Balanced Score Card. They all met the over all goal of projecting and sustaining a healthy and medically protected force. Each alternative maintained the health of our service members (C-1), and lowers the Army's medically related costs by recapturing workload (C-3). Any of these alternatives meets the goal of managing the care of the military and the military family by improving satisfaction because patients will not have to be referred outside the facility (C-6) it will also improve the overall health of patients and their families (C-8). All the alternatives will provide seamless (C-9) and maximize total (MCSC plus Direct)

system efficiency. By following these alternatives they will also provide more accountable and cost effective service (F-4) (see Appendix B).

Each of the alternatives focuses on some aspects of the second pillar of the Balanced Score Card, internal processes. These types of GI procedures all utilized health risk assessment and health promotion (IP-1). They also more efficiently integrate the use of direct and network care by keeping more workload within the facility (IP-3) (see Appendix B).

Each of the alternatives focuses on some aspects of the second pillar of the Balanced Score Card, learning and growth. Each alternative optimizes quality staff by actually requesting to take on more workload (L-1). The project itself as a whole also leverages information management and technology to provide state of the art medical care by utilizing reports like the Health Net Report and Tricare Referral Report to capture lost workload (L-2) (see Appendix B).

The final pillar is financial. Each alternative focuses helps the organization as a whole strategically aligns funds and optimizes total system costs to include costs to the VA (F-5). The project also assists the organization by projecting and securing required levels of funding (F-6). The required levels of funding were thought out in great detail for each alternative (see Appendix B).

It is the belief of the GI APC PAT that it would just not make sense to stay with the preexisting alternative, staying in the GI clinic and continuing to lose workload in cramped quarters. It specifically falls short in that it does not improve customer satisfaction (C-6), assist in providing seamless care (C-9) and does not stress access,

convenience and excellence in care and disposition of our beneficiaries with Aloha (IP-). By choosing this alternative, Tripler loses workload and money (see Appendix B).

Immediately following this briefing the GI APC PAT met with the chief of facilities and the space manager of Tripler and requested that a contractor to validate construction costs and get greater detail on the plans for the center on the 9<sup>th</sup> floor. It was also necessary to develop costs for movement of not only the GI clinic's equipment, but also QSD equipment and office furniture. The same basic financial three-year pro forma would be applied with the concept of selling a portion of the services to the VA. In this case, we would only charge the VA for the facility, administrative and nursing costs related to the procedures. This would require only an APC rate to be applied to each procedure. It would not include an RBRVS charge. The calculations for the ninth floor concept can be seen in Appendix L (see Sheet 5, Appendix L). The basic financial layout in the first year is exactly like the others in that it cost Tripler 722,617 dollars for 1437 procedures or 1315 visits. In the first year of the project, it will cost 46,581 dollars for 523 procedures worth of supplies, 68,213 dollars to hire two GS 5 step 1 LPNs, and 200,000 for construction and movement costs. This cost for construction and movement represents the cost to move the QSD staff in to the 1984<sup>th</sup> RSC space on the fifth floor and installing cubicles for office space. It also covers the cost of moving the GI clinic and its equipment to the ninth floor. In addition, the cost to install a ventilation system, remove a wall for a joint recovery room, and installation of GIs existing equipment into each room. From a cost avoided perspective the VA would pay approximately 120,101.56 dollars for their care based on an APC or facility rate which is calculated in appendix N (see Appendix N). In addition, we would recapture 169,135.43 dollars from

the network if we recaptured 239 procedures. A figure of 28,193 dollars representing 10.63 percent for other health insurance could be added to equal a total of 293,409 dollars representing the total cost avoided. In the following year, only the nurses and supply expenses for these supplies would be required to be paid, the construction costs would be already paid for. This type of scenario pays itself off during the second year and produces a net cost avoided of 335,847 dollars a year (see Sheet 5, Appendix L). It was a requirement of the commander that this type of scenario would be an option only if a memorandum of agreement (MOA) would be developed and potentially sharing of the constructions costs be worked into the MOA (MG Adams, personal communication, 28 Jan 02).

The researcher recommended to the GI APC PAT that a weighted decision matrix be presented to the commander one final time with the GI APC PAT's final recommendation (see Appendix P; DECMAT, 2001). The final weighted decision matrix weighted the following criteria in order: flexibility being the most important to the commander, disruption to the organization ranked second, movement and construction conversion costs ranked third, maximum procedure rooms ranked fourth, recovery room ranked fifth, and alignment with the Balance score card ranked sixth. The options were ranked and the weighted criteria applied to each. The sum of all scores resulted in ninth floor option being the lowest score and the overall best option (see Appendix P; DECMAT, 2001).

This entire proposal consisting of the new BCA scenario and the Weighted DECMAT was presented to the commander on 13 Feb 02 by the researcher. It confirmed



her belief that the ninth floor option was probably the best option for the long-term strategic plan of the organization.

### Conclusion

It is the GI APC PAT's belief that the commander should select the following course of action. The selection of the ninth floor location with the development of a large recovery room, additional staff and up to five procedure rooms is the best option for the following reasons. The providers can accept more workload given a recovery unit and additional nursing staff. The belief is that up to an additional 523 procedures or 480 visits a year can be accommodated. The providers in the GI clinic are very productive based on national standards but given these additional resources they can achieve even greater efficiencies. The addition of four to five procedure rooms will allow more flexibility for room turn over and will also present a situation where one room could be dedicated to the VA and their GI staff. With this in mind, a facility charge can be applied to each procedure performed thus allowing cost sharing and the ability for both organizations to recapture lost workload. The 4,000 square feet of space available is much larger than any other space in the hospital and has bathrooms in each room. The basic layout of the ninth floor is not exactly what would be the most ideal where there would be a nurse-station to over-watch the recovery room but that could be overcome by having additional nurses in the recovery room at all times observing patients. It also must be noted again that the ninth floor used to be an orthopedic ward. By recapturing this administrative space and converting it to clinical space it will improve access and decrease losses to the network. The ninth floor option also wins clearly in regard to the decision matrix, by having the most flexibility in regard to expansion if in the event more

Army or VA staff are hired, least disruption to the organization, slightly more expensive than the two other alternatives, maximum number of procedure rooms, and the added benefit of a large recovery room that will require minimal construction conversion (see Appendix O). This action aligns with the TAMC Balanced Score Card specifically in regard to improving access for our beneficiaries and saving Tripler and MEDCOM dollars. It is the belief of the GI APC that by developing this center, our organization will be better served and more efficient. Finally, our current GI service and also the VA will also have a joint focus the future.

It was a concern to the researcher that there was conflicting information coming from the Health Net, ARS Bridge and the CURES reports. It was noticed by the GI APC PAT that probably the FY 2001 reports as they presented themselves later in the study had larger numbers of paid claims or procedures and that they seemed to be more accurate and could potentially produce higher cost savings (G. Christal, personal communication 20 Feb 02). A recommended follow up to this study be conducted to see if there are not even greater numbers of paid claims occurring in the network. It is recommended to look closer at the FY 2001 ARS Bridge, CURES and Health Net Reports and utilize the more promising numbers.

The researcher was in a sense provided with the ARS Bridge Reports until later in the study. The figures of the Health Net Report are more conservative. Unfortunately, it does not take into account the number of active duty beneficiaries. By conducting further research, a clearer picture will be represented and more dollars and procedures may be able to be recaptured from the network. By looking at 2001 data, it will also present

more recapturable procedures which will have greater cost avoided value to the organization.

In the interim that this facility would be constructed, a commitment would have to be made to utilize a workaround plan until the construction is complete. The researcher feels that potentially the hours of the PACU could be expanded and additional nursing staff be hired in order to start recapturing workload. With the 9<sup>th</sup> floor option, this construction could be complete in about a year. This is about half the timeframe as originally anticipated (G. Lee, personal communication, 11 Mar 02).

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DEPARTMENT OF VETERANS AFFAIRS  
SPARK M. MATSUNAGA  
Medical and Regional Office Center  
459 Patterson Road  
Honolulu HI 96819-1522

In Reply Refer To: 4 59 / 111

JUN 29 2001

Colonel Lee W. Briggs  
Chief of Staff  
Tripler Army Medical Center  
1 Jarrett White Road  
TAMC AMC, HI 96859

Dear Colonel Briggs:

The VA Medical & Regional Office Center (VAMROC) Honolulu is seeking space within Tripler Army Medical Center for an ambulatory specialty services suite. The space is intended to serve patients requiring evaluation and management by duly qualified credentialed and privileged VA staff and provide room for outpatient surgeries, endoscopies, cardiac diagnostics, and infusion therapy. The space/building/architectural construction features must conform to or be capable of being altered to conform with prevailing standards for an ambulatory surgical center.

Space criteria as

Item	Description	NSF
1.	waiting area	200
2.	reception room	120
3.	surgical room	525
4.	endoscopy room	500
5.	receiving/observation/infusion room (6 beds)	1000
6.	pre-op exam room (3 beds)	250
7.	exam rooms x 5	500
8.	physician offices (x3 150)	450
9.	office for nurse/nurse manager (x 1 @ 120)	120
10.	soiled room	170
11.	clean room	170
12.	locker room (male/female) (x2 300)	600
13.	handicapped room (male/female)	220

Colonel Lee W. Briggs

2.

Item	Description	NSF
14.	conference room	200
15.	cardiac diagnostics	200
	Total	5225 NSF
	1.45% for corridor/wall/mech	2351 SF
	Grand Total	7576 GSF

A written response indicating TAMC's preliminary interest in providing space and identifying the potential location within your facility is requested by the close of business on July 9, 2001. Next steps may be taken by our respective Engineering and Business Departments to review regulatory requirements and construction and leasing details pending an affirmative reply.

Sincerely,

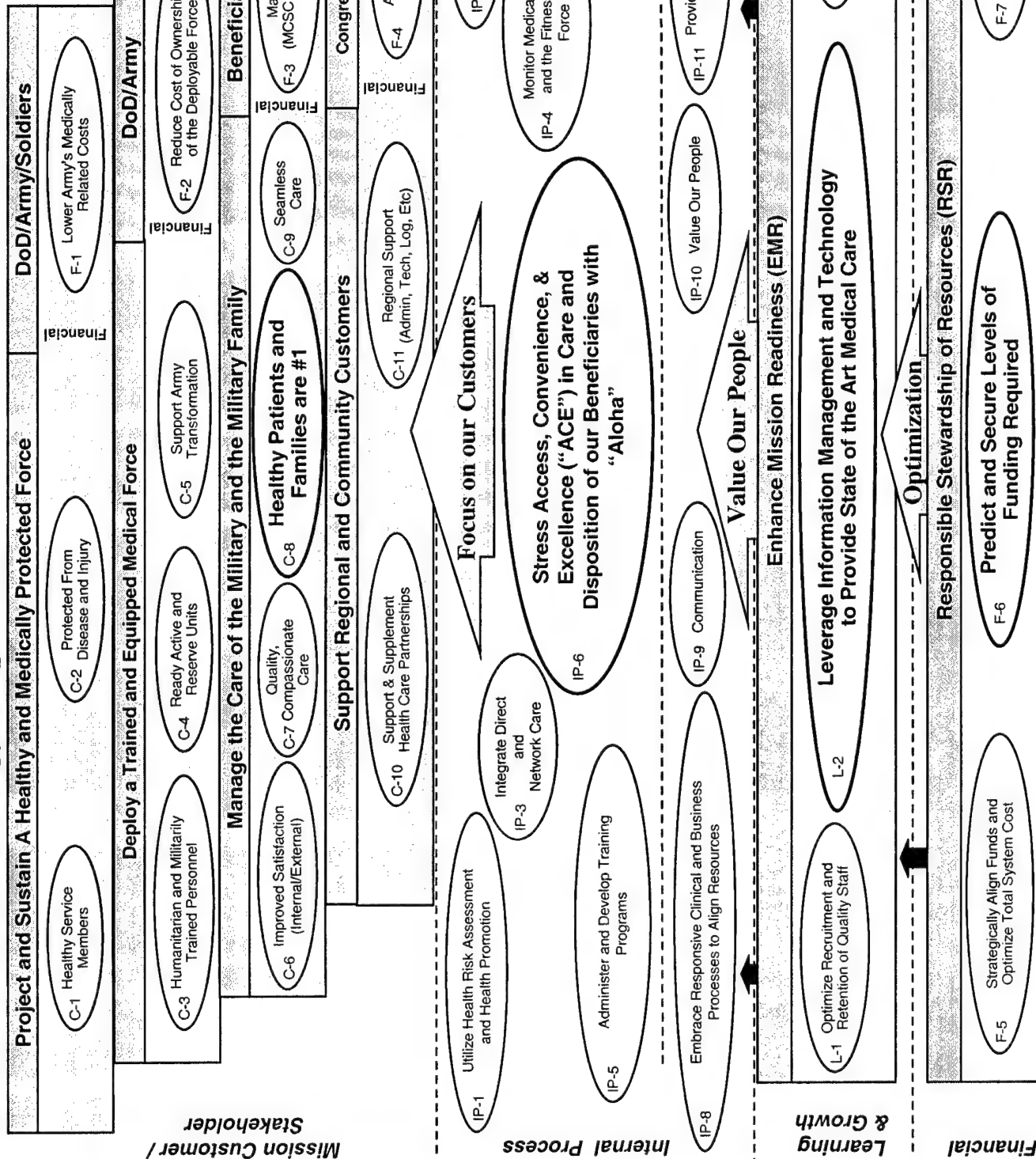


Steven MaCBrade, M.D.  
Chief of Staff

# PRMC/ TAMC Strategy Map

DRAFT

9 May 01



Balanced Scorecard Initiative  
Business Case Analysis  
(BCA) Template  
adapted from MEDCOM template  
"Base BCA Template 3.6 (BSC Rationalization).xls"

**PACIFIC REGIONAL MEDICAL COMMAND BALANCED SCORECARD BUSINESS CASE ANALYSIS**

**Cover Page - Balanced Scorecard Initiative**

<b>Initiative Name:</b>	EXAMPLE: Reduce number and cost of FECA claims
<b>Strategic Theme:</b>	EXAMPLE: Achieve fiscal accountability
<b>Strategic Objective:</b>	EXAMPLE: Lower Army's medically related costs.
<b>Target:</b>	EXAMPLE: Reduce claims by 3%
<b>Initiative Description:</b>	
EXAMPLE: Initiate an aggressive program to reduce preventable injuries and illnesses. Aggressively manage old claims through frequent medical reviews and follow-up evaluations.	
<b>POC Name/Office/Phone/E-mail:</b>	MAJ John Doe Da BEST Department 808.433.XXXX John.Doe@haw.tamc.amedd.army.mil
<b>Status (Select one by marking "X")</b>	<input type="checkbox"/> <b>Developing</b> <input type="checkbox"/> <b>Pending</b> <input checked="" type="checkbox"/> <b>X</b> <input type="checkbox"/> <b>Approved</b> <input type="checkbox"/> <b>Implemented</b>
<b>Interdependencies:</b>	State which BSC initiatives must be completed subsequent to implementing your initiative.

**Executive Summary**

<b>Initiative Name:</b>	EXAMPLE: Reduce number and cost of FECA claims							
<b>Non-Fiscal "Value" Summary</b>								
<b>Description of Benefits:</b>								
<b>Complexity Issues:</b>								
<b>Interdependency Issues:</b>								
<b>Benefit Drivers:</b>								
<b>Risks:</b>								
<b>Performance Measures/Metrics:</b>								
<b>Fiscal "Value" Summary</b>								
<b>Budget:</b>	2002	2003	2004	2005	2006	2007	2008	FY04-08
<b>Investment/Change in Direct Care</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Reimbursables Impact</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Cost Avoidance-Savings/ MCS Contract Impact</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Net Value or Savings</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Payback Period (years)</b>	-	-	-	-	-	-	-	-
<b>Annual ROI %</b>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0%
<b>Cumulative ROI %</b>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: These values are linked to the BU2 Funding & Savings Worksheet. Please leave these dollars in a non-inflated, constant dollar state. Do NOT inflate them for later years. They will be inflated by MEDCOM ASCRM as part of the validation process, using the appropriate OMB inflator.

**Unfunded Requirements (Prime Patients Only = 523 procedures Option)**

	Current Funding		Initiative Notes	Initiative Financial Requirements
<b>Investment</b>	<b>Surgery FY01 Budget</b>		<b>volume required</b>	<b>Prime Procedures Only =239</b>
Marginal (Direct Supplies + D&E SEEC 26.XX MEPRS Stepdown)	\$ 126,986		523	\$ 46,581
Capital (New Equipment & Construction)	\$ -		(Wall, Air Handler, POU, New Nurse Station)	\$ 175,000
Labor (Military + Contract + D&E SEEC 11.XX)	\$ 555,633		(Salary 2 LPNs fee at GS5, step 1 at \$34,106.25 rate)	\$ 68,213
Travel(D&E SEEC 21.XX)	\$ 931			\$ -
Resource Support/Local Contract (D&E SEEC 25.50)	\$ 10,907			\$ -
Supplemental Care (D&E SEEC 25.55)	\$ -			\$ -
Miscellaneous (other D&E SEECs)	\$ 79,109			\$ -
<b>Direct Care Investment</b>	<b>\$ 773,566</b>			<b>\$ 289,794</b>
<b>Reimbursable Earnings</b>	<b>Based on 3rd Party Claims in house report FY 00</b>			<b>Based on 10.63% figure from Health Net Report FY 00</b>
Third Party Collections: (for GI Ambulatory Surgery Clinic)	\$ 50,950			\$ 31,475
<b>Savings/Cost Avoidance</b>				
Change in Direct Care: Savings (+) / Cost (-)				
MCS Contract Impact: Savings (+) / Cost (-) with 80% risk sharing factor				\$ 296,093
<b>*Net Value for FY 00 1315 visits or 1437 procedures</b>	<b>\$ (722,617)</b>			<b>\$ 37,774</b>

**\$ 327,568**

**Notes:**

Data comes from MEPRS FY 00  
BAG5, GI Ambulatory Surgery Clinic  
Summary Report, Health Net  
Historical Claims Report 1 Jan 00- 30  
Dec 00 & 3rd Party Claims Reports  
FY 00

In House procedures based on FY 00 MEPRs  
Data 1315

No of procedures  
based on FY 00 ADS  
Report 1437

Procedures to Visits ratio = 1437/1315 1.09

No of Visits that can  
be seen based on  
new efficiencies 480

No of procedures based on new efficiencies  
523.2

Total Supply Costs For GI FY 00 MEPRS  
SEEC 26.XX  
\$127,986.47

No of Procedures FY 00 in ADS  
1437

Supply Cost per  
procedure  
\$89.07

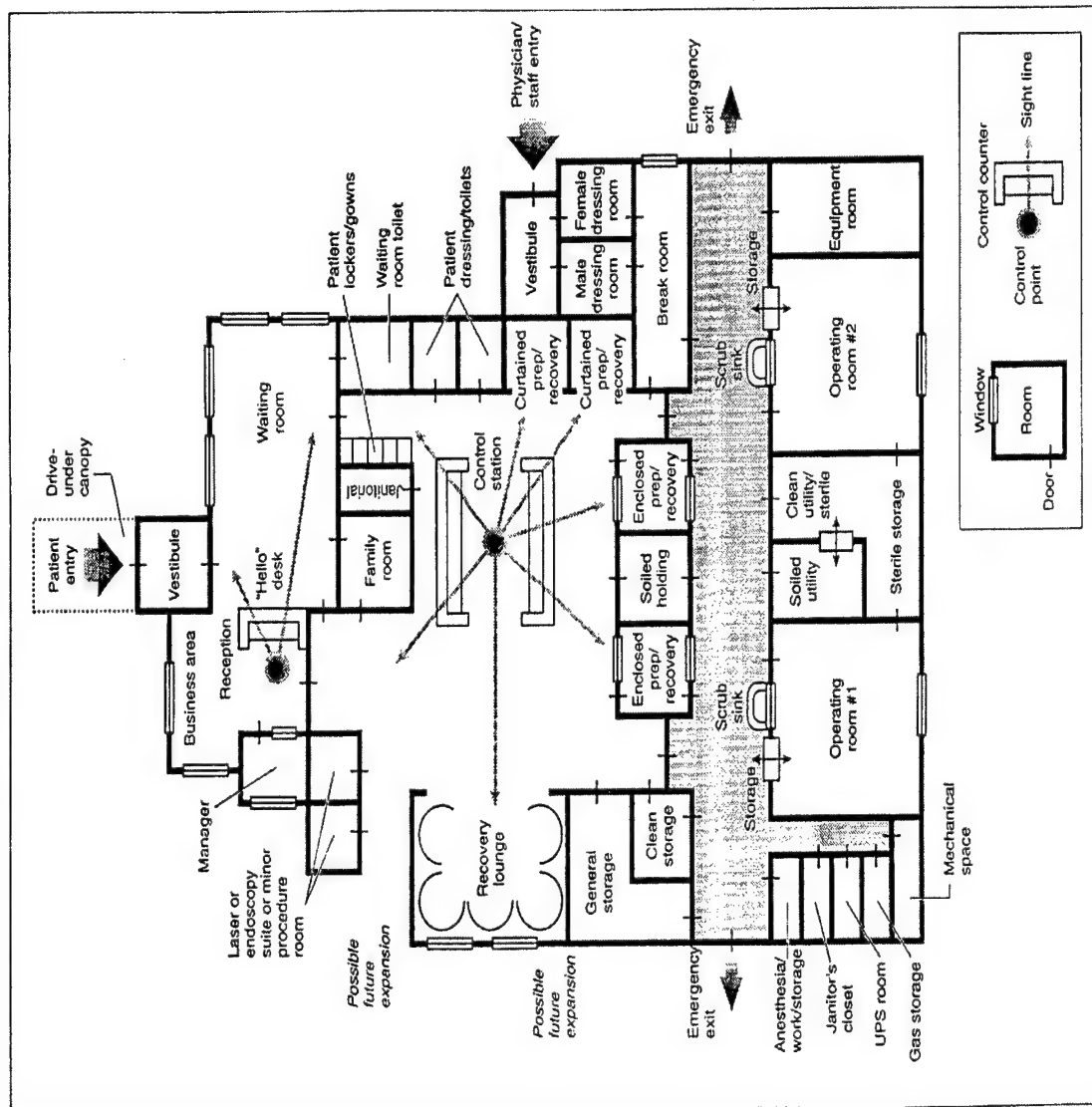
Avg Cost Per Case  
\$169,135.43

239

# Typical APC Layout

FIGURE 3-8

Large Surgery Suite Functional Relationship Diagram\*



\*This diagram should not be construed as a floor plan.

# Gastroenterology Productivity Study

Available FTEs in BAGA and BAG5 (Ambulatory Clinics)

According to MEPRS/UCAPERS, an average of 1.8 available Clinician FTEs were reported in BAGA and BAG5. Available FTEs represents time spent in outpatient care only.

Baroni	920.85
Loughney	812.63
Osgard	84.09
Ramos	786.68
Ramamirtham	728.00
TOTAL	3332.25 HOURS

3332.25 clinic hours/168 monthly FTE hrs = 19.83 FTEs

19.83 FTEs/11 months = 1.8 FTEs available on average per month  
(out of a potential of 2.87 FTEs)

DATA SOURCE: CHCS Workload Report Oct 99 - Aug 00

MEPRS/UCAPERS      Oct 99 - Aug 00



# CLINICIAN WORKLOAD

## BAGA AND BAG5

### (OCT 99 - AUG 00)

Count Visits (CHCS) : 6586

Annualized, each FTE does the following:

6586 count visits/11 months/1.8 FTEs x12 = 3992 visits per year

1999 Medical Group Management Association (MGMA) Benchmarks

25th %tile	1303
Median	1784
Mean	2040
90th %tile	3336
TAMC GI	3992

# Gastroenterology Productivity Study

Available FTEs for Inpatient Care

According to MEPRS/UCAPERS, an average of .576 available Clinician FTEs were reported in AAAA, AABA, AAFA. Available FTEs represents time spent in inpatient care only.

Baroni	425.35
Loughney	238.82
Osgard	86.67
Ramos	314.48
TOTAL	1065.32 HOURS

1065.32 clinic hours/168 monthly FTE hrs = 6.34 FTEs

6.34 FTEs/11 months = .576 FTEs available on average per month  
(out of a potential of 2.87 FTEs)

DATA SOURCE: PAD Clinic Service Statistics Oct 99 - Aug 00

MEPRS/UCAPERS Oct 99 - Aug 00

# CLINICIAN INPATIENT WORKLOAD (OCT 99 - AUG 00)

Inpatient Consults : 928

Annualized, each FTE does the following:

928 count visits/11 months/.576 FTEs x12 = 1758 consults per year

1997 Medical Group Management Association (MGMA) Benchmarks

25th %tile	512
Median	867
Mean	901
90th %tile	1637
TAMC GI	1758

# Gastroenterology Productivity Study

Available FTEs for Inpatient Care

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DATA SOURCE: PAD Clinic Service Statistics Oct 99 - Aug 00  
MEPRS/UCAPERS Oct 99 - Aug 00

# ALLOCATION OF PROVIDERS' TIME

TOTAL PROVIDER HOURS	5319.07/168 hrs/11 mo = 2.9 FTEs
Outpatient Care	3332.25 63.00%
Inpatient Care	1065.32 20.00%
GME	671.85 13.00%
CME/TDY CME	80.62 1.25%
Consultation	24.00 .50%
PT	125.00 1.75%
Field Exercises	19.00 .40%
Readiness/Deployment	1.03 .10%

Academic Table: Standardized Ambulatory Encounters (PE Excluded) for Faculty to 100% Basic Clinical Activity									
Specialty	Faculty	Peers	Mean	Std. Dev.	125th %ile	Median	75th %ile	90th %ile	95th %ile
Allergy/Immunology	2	2	0	0	0	0	0	0	0
Anesthesiology	6	1	0	0	0	0	0	0	0
Anesth: Pain Management	9	4	0	0	0	0	0	0	0
Anesth: Pediatric	2	1	0	0	0	0	0	0	0
Critical Care: Intensivist	0	0	0	0	0	0	0	0	0
Dentistry	0	0	0	0	0	0	0	0	0
Dermatology	36	11	4,563	2,604	2,383	3,842	6,758	8,469	8,469
Dermatology: MOHS Surg	10	8	3,053	1,107	2,135	3,153	3,701	4,886	4,886
Emergency Medicine	78	9	4,811	1,981	3,247	4,028	5,794	7,478	7,478
Family Practice (with OB)	77	10	3,640	1,477	2,549	3,432	4,492	5,603	5,603
Family Practice (without OB)	26	10	3,488	1,709	2,250	3,095	4,352	6,304	6,304
Family Practice: Sports Med	0	0	0	0	0	0	0	0	0
Genetics	3	2	0	0	0	0	0	0	0
Gynecology (only)	18	7	2,139	1,289	1,116	1,761	3,550	4,200	4,200
Gynecological Oncology	24	9	1,787	1,415	1,019	1,540	2,325	3,221	3,221
Internal Medicine (Gen)	115	12	2,843	1,243	2,094	2,800	3,465	4,392	4,392
Int Med: Cardiology: Invasive	18	8	2,865	1,752	1,101	2,494	4,222	5,159	5,159
Int Med: Cardiology: Inv-Interv	34	7	1,787	1,951	432	846	2,291	5,893	5,893
Int Med: Cardiology: Noninvasive	62	11	1,785	1,670	552	1,419	2,547	4,030	4,030
Int Med: Endo/Metabolism	18	6	3,112	1,671	2,018	2,550	3,624	6,448	6,448
Int Med: Gastroenterology	53	11	1,412	783	859	1,213	1,854	2,922	2,922
Int Med: Gastro: Hepatology	19	7	2,172	1,313	1,350	1,797	2,636	3,400	3,400
Int Med: Geriatrics	14	5	1,254	1,055	439	919	1,657	3,293	3,293
Int Med: Hematology/Oncology	39	13	2,425	1,690	1,060	1,983	2,964	5,658	5,658
Int Med: Hospitalist	0	0	0	0	0	0	0	0	0
Int Med: Infectious Disease	18	8	1,052	716	420	935	1,311	2,106	2,106
Int Med: Nephrology	25	8	2,266	1,710	928	1,928	3,271	4,875	4,875
Int Med: Oncology (only)	18	6	3,576	2,463	2,415	2,871	3,694	7,808	7,808
Int Med: Pulmonary Medicine	32	9	2,699	2,114	908	2,439	4,069	5,774	5,774
Int Med: Pulm Med: Critical Care	13	3	2,602	941	1,694	2,634	3,475	4,074	4,074
Int Med: Rheumatology	26	7	2,560	1,255	1,378	2,488	3,541	4,110	4,110
Maternal and Fetal Medicine	42	13	1,747	1,109	935	1,504	2,117	3,633	3,633
Neurology	133	25	1,777	1,171	977	1,450	2,308	3,389	3,389
Obstetrics/Gynecology	56	15	1,984	1,207	866	1,998	2,738	3,424	3,424
Occupational Medicine	3	3	0	0	0	0	0	0	0
Ophthalmology	70	13	4,003	2,648	2,416	3,519	4,745	6,930	6,930
Ophth: Pediatric	13	5	2,332	833	1,700	2,222	2,787	3,853	3,853
Ophth: Retina	28	10	4,089	2,351	2,379	3,819	4,574	7,491	7,491
Orthopedic Surgery (Gen)	11	5	2,142	1,084	1,028	2,218	2,498	4,145	4,145
Ortho Surg: Foot & Ankle	5	5	0	0	0	0	0	0	0
Ortho Surg: Hand	3	3	0	0	0	0	0	0	0
Ortho Surg: Hip & Joint	9	4	0	0	0	0	0	0	0
Ortho Surg: Pediatric	9	5	0	0	0	0	0	0	0
Ortho Surg: Spine	10	6	2,530	1,485	1,542	1,870	3,031	5,648	5,648
Ortho Surg: Trauma	12	6	3,624	1,894	2,340	3,337	3,927	7,439	7,439
Ortho Surg: Sports Medicine	4	3	0	0	0	0	0	0	0
Otorhinolaryngology	82	15	2,389	1,040	1,634	2,343	3,102	3,788	3,788
Otorhinolaryngology: Ped	10	7	1,742	1,156	437	1,784	2,507	3,551	3,551
Pathology: Anatomic	6	1	0	0	0	0	0	0	0
Pathology: Clinical	5	1	0	0	0	0	0	0	0
Pediatrics (Gen)	74	15	2,851	2,159	1,195	2,406	3,845	6,000	6,000
Ped: Adolescent Medicine	3	3	0	0	0	0	0	0	0
Ped: Allergy/Immunology	4	3	0	0	0	0	0	0	0
Ped: Cardiology	31	7	1,206	757	580	1,051	1,638	2,172	2,172
Ped: Child Development	6	4	0	0	0	0	0	0	0
Ped: Clinical & Lab Immuno	0	0	0	0	0	0	0	0	0
Ped: Critical Care/Intensiv	17	6	4,514	5,819	2,200	2,848	3,445	19,137	19,137
Ped: Emergency Medicine	17	4	4,862	2,678	3,367	4,178	6,458	9,697	9,697
Ped: Endocrinology	12	7	1,393	496	1,017	1,421	1,890	2,049	2,049
Ped: Gastroenterology	15	7	1,494	665	874	1,442	2,022	2,483	2,483
Ped: Genetics	7	5	0	0	0	0	0	0	0
Ped: Hematology/Oncology	19	7	4,366	6,069	881	1,442	3,524	17,247	17,247
Ped: Hospitalist	0	0	0	0	0	0	0	0	0
Ped: Infectious Disease	3	3	0	0	0	0	0	0	0
Ped: Intensivist	0	0	0	0	0	0	0	0	0
Ped: Neonatal Medicine	20	8	3,322	3,684	1,553	2,331	3,000	11,738	11,738
Ped: Nephrology	11	7	1,342	934	766	992	1,407	3,487	3,487
Ped: Neurology	16	8	1,483	726	906	1,640	1,958	2,496	2,496
Ped: Pulmonology	10	7	2,895	4,518	888	1,338	2,362	14,269	14,269
Ped: Rheumatology	2	1	0	0	0	0	0	0	0
Ped: Sports Medicine	0	0	0	0	0	0	0	0	0
Physiatry (Physical Med & Re)	42	9	1,480	1,239	686	992	2,056	3,400	3,400
Podiatry (Gen)	0	0	0	0	0	0	0	0	0
Podiatry: Surg-Foot & Ankle	0	0	0	0	0	0	0	0	0
Podiatry: Surg-Forefoot Only	0	0	0	0	0	0	0	0	0
Psychiatry (Gen)	27	7	1,522	1,090	724	1,404	1,979	3,025	3,025
Psychiatry: Child & Adoles	2	2	0	0	0	0	0	0	0
Psychiatry: Forensic	1	1	0	0	0	0	0	0	0
Psychiatry: Geriatric	1	1	0	0	0	0	0	0	0
Radiation Oncology	56	11	3,360	3,027	743	2,589	5,525	7,801	7,801
Rad: Diagnostic-Invasive	46	9	7,170	4,735	4,083	5,652	7,470	15,057	15,057
Rad: Diagnostic-Noninvasive	139	11	11,039	5,785	6,953	9,031	13,689	20,619	20,619
Rad: Nuclear Medicine	7	3	0	0	0	0	0	0	0
Reproductive Endocrinology	15	9	1,913	932	1,174	1,932	2,623	3,313	3,313
Surgery (Gen)	115	22	1,534	1,039	809	1,288	2,059	2,948	2,948
Surg: Cardiovascular	25	13	464	369	270	333	556	845	845
Surg: Cardiovascular-Ped	2	2	0	0	0	0	0	0	0
Surg: Colon and Rectal	16	8	930	582	479	717	1,626	1,768	1,768
Surg: Neurological	88	14	1,205	527	899	1,276	1,637	1,829	1,829
Surg: Oral	0	0	0	0	0	0	0	0	0
Surg: Pediatric	23	12	788	514	419	628	981	1,344	1,344
Surg: Plastic & Reconstr	46	16	1,909	1,146	836	1,901	2,705	3,444	3,444
Surg: Plastic & Recon-Hand	0	0	0	0	0	0	0	0	0
Surg: Plastic & Recon-Ped	0	0	0	0	0	0	0	0	0
Surg: Transplant	19	11	563	374	321	487	872	950	950
Surg: Trauma	36	13	636	584	296	438	866	1,543	1,543
Surg: Trauma-Bum	25	11	835	1,000	276	413	1,159	1,916	1,916
Surg: Thoracic (only)	7	4	0	0	0	0	0	0	0
Surg: Vascular (only)	45	17	1,438	1,260	718	1,073	1,727	2,408	2,408
Urology	34	11	2,210	1,924	1,242	2,064	2,690	3,849	3,849
Urology: Pediatric	10	6	1,514	556	1,224	1,435	2,040	2,431	2,431

#REF!

[illegible]

**Cummulative Net  
Cost Avoidance**

**Data comes from MEPRS FY 00  
BAG5, GI Ambulatory Surgery Clinic  
Summary Report, Health Net  
Historical Claims Report 1 Jan 00- 30  
Dec 00 & 3rd Party Claims Reports  
FY 00**

1315

1437

109

480

No of Pro  
00 In ADS  
1437

239

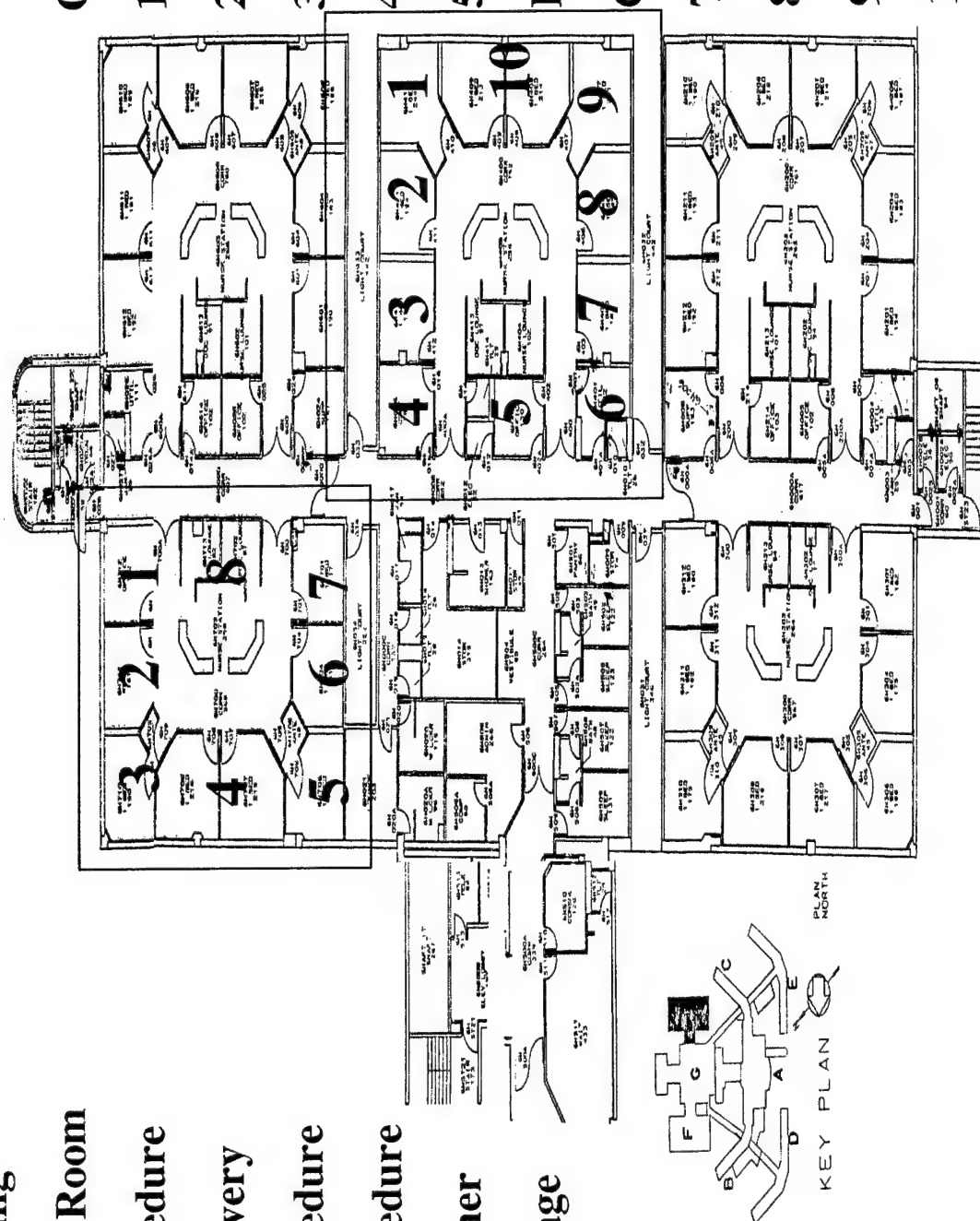
## Appendix H, Proposed Layouts





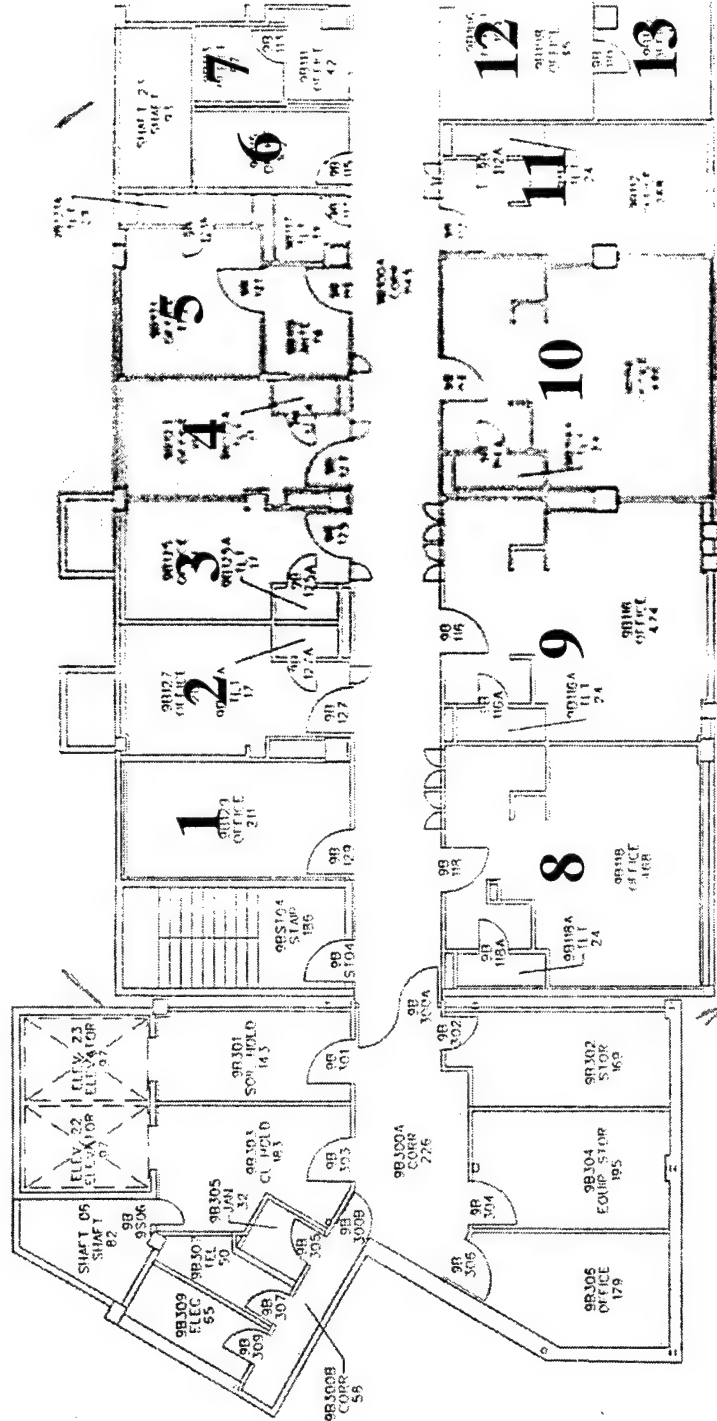
## 8. Storage

## 10.Recovery



# 9th Floor, B Wing, QSD

1. Scope Wash Room
2. Procedure Room
3. Procedure Room
4. Procedure Room
5. Supply
6. Waiting Room
7. Reception
8. Joint Recovery
9. Procedure Room
10. Procedure Room
11. Dictation Room
12. Nurse Station



WING B - LEVEL 9  
1/16" = 1'-0"

# Space Allocation Worksheet

TABLE 3-6

## Surgery Area Space Program Form

	Single-Specialty, Attached to Practice		Multispecialty Freestanding	
	Subtotal	Total	Subtotal	Total
A. Vestibule*	80 to 120 SF	SF	80 to 120 SF	SF
B. Waiting				
1. Seats	6 Seats x # of ORs @ 18 SF/seat =	SF	6 Seats x # of ORs @ 18 SF/seat =	SF
2. Nourishment/TV	1 @ 15 SF =	SF	1 @ 15 SF =	SF
C. Waiting room/toilet*	1 @ 55 SF =	SF	1 @ 55 SF =	SF
D. Business area				
1. Positions	60 SF/Person	SF	60 SF/Person	SF
• Reception/scheduler	40 SF/Person	SF	40 SF/Person	SF
• Transcription	40 SF/Person	SF	40 SF/Person	SF
• Billing/collection	40 SF/OR	SF	40 SF/OR	SF
2. Files	30 to 50 SF	SF	30 to 50 SF	SF
3. Work/computer	1/OR @ 80 SF =	SF	1/OR @ 80 SF =	SF
E. Family room*				
F. Patient dressing	1 per OR @ 55 SF =	SF	1 per OR @ 55 SF =	SF
1. Toilet/dressing	3 per OR @ 55 SF =	SF	3 per OR @ 55 SF =	SF
2. Patient lockers/gowns	80 to 120 SF	SF	100 to 150 SF	SF
G. Control station				
H. Prep/recovery	2 per OR @ 80 SF =	SF	2 per OR @ 80 SF =	SF
1. Curtained stations	1 per OR @ 80 SF =	SF	1 per OR @ 80 SF =	SF
2. Enclosed stations	3 per OR @ 80 SF =	SF	3 per OR @ 80 SF =	SF
3. Recovery lounge	350 to 400 SF	SF	350 to 400 SF	SF
I. Operating rooms	60 to 80 SF	SF	80 to 120 SF	SF
J. Soiled utility	60 to 80 SF	SF	80 to 120 SF	SF
K. Clean utility/sterilization	60 to 80 SF	SF	80 to 120 SF	SF
L. Sterile storage	60 to 80 SF	SF	80 to 150 SF	SF
M. Scrub sink	1/OR @ 10 SF =	SF	1/OR @ 10 SF =	SF
N. Clean storage	30 to 50 SF	SF	40 to 80 SF	SF
O. Soiled holding	30 to 50 SF	SF	40 to 80 SF	SF
P. Anesthesia/work/storage	40 to 80 SF	SF	40 to 80 SF	SF
Q. Staff dressing	80 to 120 SF	SF	100 to 150 SF	SF
1. Male dressing	100 to 150 SF	SF	120 to 180 SF	SF
2. Female dressing	2 @ 65 SF =	SF	2 @ 65 SF =	SF
3. Toilet with shower	80 to 100 SF	SF	100 to 120 SF	SF
4. Break room*	80 to 180 SF	SF	100 to 250 SF	SF
R. General storage	60 to 120 SF	SF	100 to 250 SF	SF
S. Equipment storage	20 to 30 SF	SF	20 to 30 SF	SF
T. Janitor's closet	30 to 50 SF	SF	30 to 50 SF	SF
U. Gas storage	30 to 50 SF	SF	30 to 50 SF	SF
V. UPS room	80 to 100 SF	SF	80 to 120 SF	SF
W. Mechanical space				
X. Miscellaneous areas	80 to 120 SF	SF	80 to 120 SF	SF
1. Laser room*	30 SF	SF	30 SF	SF
2. Dark room*	80 to 120 SF	SF	80 to 120 SF	SF
3. Director's office*	180 to 220 SF	SF	180 to 220 SF	SF
4. Endoscopy rooms*	60 to 80 SF	SF	60 to 80 SF	SF
5. Endoscopy utility*	Sum of A through X	SF	Sum of A through X	SF
Total net area	40% of total net	SF	40% of total net	SF
40% circulation	Total net + circulation	SF	40% of total net	SF
Total gross area			Total net + circulation	SF

\* Not required by Medicare.

# Space Allocation Worksheet

Appendix J, Space Allocation Worksheet

TABLE 3-6

## Surgery Area Space Program Form

	Single-Specialty, Attached to Practice		Multi-Specialty Freestanding	
	Subtotal	Total	Subtotal	Total
A. Vestibule*	80 to 120 SF	80 SF	80 to 120 SF	SF
B. Waiting				
1. Seating				
2. Nourishment/TV	6 Seats x # of ORs 6*18=108 SF	108 SF	6 Seats x # of ORs 6*18 SF/seat = 108 SF	SF
C. Waiting room/toliet*	1 @ 15 SF = 15 SF	15 SF	1 @ 15 SF = 15 SF	SF
D. Business area	1 @ 55 SF = 55 SF	55 SF	1 @ 55 SF = 55 SF	SF
1. Positions				
• Reception/scheduler	60 SF/Person	60 SF	60 SF/Person	SF
• Transcription	40 SF/Person	40 SF	40 SF/Person	SF
• Billing/collection	40 SF/Person	40 SF	40 SF/Person	SF
2. Files	40 SF/OR	40 SF	40 SF/OR	SF
3. Work/computer	30 to 50 SF	210 SF	30 to 50 SF	SF
E. Family room*	1/OR @ 80 SF = 80 SF	80 SF	1/OR @ 80 SF = 80 SF	SF
F. Patient dressing				
1. Toilet/dressing	1 per OR @ 55 SF = 55 SF	55 SF	1 per OR @ 55 SF = 55 SF	SF
2. Patient lockers/gowns	3 per OR @ 55 SF = 165 SF	165 SF	3 per OR @ 55 SF = 165 SF	SF
G. Control station	80 to 120 SF	120 SF	100 to 150 SF	SF
H. Prep/recovery				
1. Curtained stations	2 per OR @ 80 SF = 160 SF	160 SF	2 per OR @ 80 SF = 160 SF	SF
2. Enclosed stations	1 per OR @ 80 SF = 80 SF	80 SF	1 per OR @ 80 SF = 80 SF	SF
3. Recovery lounge	3 per OR @ 80 SF = 240 SF	240 SF	3 per OR @ 80 SF = 240 SF	SF
I. Operating rooms	350 to 400 SF	720 SF	350 to 400 SF	SF
J. Soiled utility	60 to 80 SF	80 SF	80 to 120 SF	SF
K. Clean utility/sterilization	60 to 80 SF	80 SF	80 to 120 SF	SF
L. Sterile storage	60 to 80 SF	80 SF	80 to 150 SF	SF
M. Scrub sink	1/OR @ 10 SF = 10 SF	10 SF	1/OR @ 10 SF = 10 SF	SF
N. Clean storage	30 to 50 SF	30 SF	40 to 80 SF	SF
O. Soiled holding	30 to 50 SF	30 SF	40 to 80 SF	SF
P. Anesthesia/work/storage	40 to 80 SF	50 SF	40 to 80 SF	SF
Q. Staff dressing				
1. Male dressing	80 to 120 SF	120 SF	100 to 150 SF	SF
2. Female dressing	100 to 150 SF	150 SF	120 to 180 SF	SF
3. Toilet with shower	2 @ 65 SF = 130 SF	130 SF	2 @ 65 SF = 130 SF	SF
4. Break room*	80 to 100 SF	180 SF	100 to 120 SF	SF
R. General storage	80 to 180 SF	180 SF	100 to 250 SF	SF
S. Equipment storage	60 to 120 SF	120 SF	100 to 250 SF	SF
T. Janitor's closet	20 to 30 SF	30 SF	20 to 30 SF	SF
U. Gas storage	30 to 50 SF	30 SF	30 to 50 SF	SF
V. UPS room	30 to 50 SF	30 SF	30 to 50 SF	SF
W. Mechanical space	80 to 100 SF	100 SF	80 to 120 SF	SF
X. Miscellaneous areas				
1. Laser room*	80 to 120 SF	SF	80 to 120 SF	SF
2. Dark room*	30 SF	30 SF	30 SF	SF
3. Director's office*	80 to 120 SF	120 SF	80 to 120 SF	SF
4. Endoscopy rooms*	180 to 220 SF	SF	180 to 220 SF	SF
5. Endoscopy utility*	60 to 80 SF	SF	60 to 80 SF	SF
Total net area	Sum of A through X	3858 SF	Sum of A through X	SF
40% circulation	40% of total net	1543 SF	40% of total net	SF
Total gross area	Total net + circulation	5401 SF	Total net + circulation	SF

\* Not required by Medicare.

# Gastroenterology Productivity

## Study FY 00

### (Oct 99- Sep 00)

Available FTEs in BAGA and BAG5 (Ambulatory Clinics)

According to MEPRS/UCAPERS, an average of 1.82 available Clinician FTEs were reported in BAGA and BAG5. Available FTEs represents time spent in outpatient care only.

Baroni	974.78
Loughney	812.63
Osgard	324.75
Ramos	828.99
Ramamirtham	728.00
TOTAL	3669.15 HOURS

3669.15 clinic hours/168 monthly FTE hrs = 21.84 FTEs

21.84 FTEs/12 months = 1.82 FTEs available on average per month  
(out of a potential of 2.91 FTEs)

DATA SOURCE: CHCS Workload Report Oct 99 - Sep 00

MEPRS/UCAPERS      Oct 99 - Sep 00

# CLINICIAN WORKLOAD

## BAGA AND BAG5

### (OCT 99 - SEP 00)

Count Visits (CHCS) : 7325

Annualized, each FTE does the following:

7325 count visits/12 months/1.82 FTEs x12 = 4024.73 visits per year

2000 Medical Group Management Association (MGMA) Benchmarks

25th %tile	859
Median	1213
Mean	1412
90th %tile	2922
TAMC GI	4025

# ALLOCATION OF PROVIDERS' TIME FY 00 (Oct 99-Sep 00)

TOTAL PROVIDER HOURS	5873.71/168 hrs/11 mo = 2.91 FTEs
Outpatient Care	3669.15 63.00%
Inpatient Care	1161.22 20.00%
GME	757.25 13.00%
CME/TDY CME	87.06 1.25%
Consultation	24.00 .50%
PT	125.00 1.75%
Field Exercises	19.00 .40%
Readiness/Deployment	1.03 .10%

**Unfunded Requirements (Prime Patients Only = 452 procedures, Break Even Option)**

	Current Funding	Initiative Notes	Initiative Financial Requirements	Second Year Phase-In	Third Year Phase-In
<b>Investment</b>	<b>Surgery FY01 Budget</b>	<b>volume required</b>	<b>Prime Procedures Only =452</b>	<b>Prime Procedures Only =452</b>	<b>Prime Procedures Only =452</b>
Marginal (Direct Supplies + D&E SEEC 26.XX MEPRS Stepdown)	\$ 126,986		\$ 40,257	\$ 40,257	\$ 40,257
Capital (New Equipment & Construction)	\$ -		\$ 175,000	\$ -	\$ -
Labor (Military + Contract + D&E SEEC 11.XX)	\$ 555,633	(Salary 2 LPNs fee at GS5, step 1 at \$34,106.25 rate)	\$ 68,213	\$ 68,213	\$ 68,213
Travel (D&E SEEC 21.XX)	\$ 931		\$ -	\$ -	\$ -
Resource Support/Local Contract (D&E SEEC 25.50)	\$ 10,907		\$ -	\$ -	\$ -
Supplemental Care (D&E SEEC 25.55)	\$ -		\$ -	\$ -	\$ -
Miscellaneous (other D&E SEECs)	\$ 79,109		\$ -	\$ -	\$ -
<b>Direct Care Investment</b>	<b>\$ 773,566</b>		<b>\$ 283,470</b>	<b>\$ 108,470</b>	<b>\$ 108,470</b>
<b>Reimbursable Earnings</b>	<b>Based on 3rd Party Claims In house report FY 00</b>		<b>Based on 10.63% figure from Health Net Report FY 00</b>	<b>Based on 10.63% figure from Health Net Report FY 00</b>	<b>Based on 10.63% figure from Health Net Report FY 00</b>
Third Party Collections: (for GI Ambulatory Surgery Clinic)	\$ 50,950		\$ 27,202	\$ 27,202	\$ 27,202
<b>Savings/Cost Avoidance</b>					
Change in Direct Care: Savings (+) / Cost (-)					
MCS Contract Impact: Savings (+) / Cost (-) with 80% risk sharing			\$ 255,897	\$ 255,897	\$ 255,897
<b>*Net Value for FY 00 1315 visits or 1437 procedures</b>	<b>\$ (722,617)</b>		<b>\$ (371)</b>	<b>\$ 174,629</b>	<b>\$ 174,629</b>

\$ 283,099

Cumulative Net Cost Avoidance

\$ 348,887

**Notes:**

Data comes from MEPRS FY 00  
BAG5, GI Ambulatory Surgery Clinic  
Summary Report, Health Net  
Historical Claims Report 1 Jan 00- 30  
Dec 00 & 3rd Party Claims Reports  
FY 00

In House procedures based on FY 00  
MEPRs Data

1315

No of procedures  
based on FY 00 ADS  
Report

1437

Procedures to Visits ratio = 1437/1315

1.09

No of Visits that can  
be seen based on  
new efficiencies

480

No of procedures based on new efficiencies  
523.2

Total Supply Costs For GI FY 00 MEPRS  
SEEC 26.XX  
\$127,986.47

No of Procedures FY  
00 in ADS  
1437

Supply Cost per  
procedure  
\$89.07

Avg Cost Per Case  
\$169,135.43  
\$707.68

239



**Unfunded Requirements (Prime Patients Only = 239 procedures Option)**

	Current Funding	Initiative Notes	Initiative Financial Requirements	Second Year Phase-In	Third Year Phase-In
<b>Investment</b>	<b>Surgery FY01 Budget</b>	<b>volume required</b>	<b>Prime Procedures Only =239</b>	<b>Prime Procedures Only =239</b>	<b>Prime Procedures Only =239</b>
Marginal (Direct Supplies + D&E SEEC 26.XX MEPRS Stepdown)	\$ 126,986	239	\$ 21,287	\$ 21,287	\$ 21,287
Capital (New Equipment & Construction)	\$ -	(Wall, Air Handler, POU, New Nurse Station)	\$ 175,000	\$ -	\$ -
Labor (Military + Contract + D&E SEEC 11.XX)	\$ 555,633	(Salary 2 LPNs fee at GS5, step 1 at \$34,106.25 rate)	\$ 68,213	\$ 68,213	\$ 68,213
Travel/D&E SEEC 21.XX	\$ 931		\$ -	\$ -	\$ -
Resource Support/Local Contract (D&E SEEC 25.50)	\$ 10,907		\$ -	\$ -	\$ -
Supplemental Care (D&E SEEC 25.55)	\$ -		\$ -	\$ -	\$ -
Miscellaneous (other D&E SEECs)	\$ 79,109		\$ -	\$ -	\$ -
<b>Direct Care Investment</b>	<b>\$ 773,566</b>		<b>\$ 264,499</b>	<b>\$ 89,499</b>	<b>\$ 89,499</b>
<b>Reimbursable Earnings</b>	<b>Based on 3rd Party Claims in house report FY 00</b>		<b>Based on 10.63% figure from Health Net Report FY 00</b>	<b>Based on 10.63% figure from Health Net Report FY 00</b>	<b>Based on 10.63% figure from Health Net Report FY 00</b>
Third Party Collections: (for GI Ambulatory Surgery Clinic)	\$ 50,950		\$ 14,383	\$ 14,383	\$ 14,383
<b>Savings/Cost Avoidance</b>	<b>Change in Direct Care: Savings (+) / Cost (-)</b>				
MCS Contract Impact: Savings (+) / Cost (-) with 80% risk sharing factor			\$ 135,308	\$ 135,308	\$ 135,308
<b>*Net Value for FY 00 1315 visits or 1437 procedures</b>	<b>\$ (722,617)</b>		<b>\$ (114,807)</b>	<b>\$ 60,193</b>	<b>\$ 60,193</b>

\$ 149,692

Cummulative Net Cost Avoidance

**Notes:**

Data comes from MEPRS FY 00  
BAG5, GI Ambulatory Surgery Clinic  
Summary Report, Health Net  
Historical Claims Report 1 Jan 00- 30  
Dec 00 & 3rd Party Claims Reports  
FY 00

In House procedures based on FY 00 MEPRS Data 1315

No of procedures based on FY 00 ADS Report 1437

Procedures to Visits ratio = 1437/1315 1.09

No of Visits that can be seen based on new efficiencies 480

No of procedures based on new efficiencies 523.2

Total Supply Costs For GI FY 00 MEPRS SEEC 26.XX \$127,986.47

No of Procedures FY 00 In ADS 1437

Supply Cost per procedure \$89.07

Avg Cost Per Case \$189,135.43 \$707.68

239

**Unfunded Requirements (Prime Patients Only = 523 procedures Option)**

	Current Funding	Initiative Notes	Initiative Financial Requirements	Second Year Phase-In	Third Year Phase-In
<b>Investment</b>	<b>Surgery FY01 Budget</b>	<b>volume required</b>	<b>Prime Procedures Only =239</b>	<b>Prime Procedures Only =239</b>	<b>Prime Procedures Only =239</b>
Marginal (Direct Supplies + D&E SEEC 26.XX MEPRS Stepdown)	\$ 126,986	523	\$ 46,581	\$ 46,581	\$ 46,581
Capital (New Equipment & Construction)	\$ -	(Wall, Air Handler, POU, New Nurse Station)	\$ 175,000	\$ -	\$ -
Labor (Military + Contract + D&E SEEC 11.XX)	\$ 555,833	(Salary 2 LPNs fee at GS5, step 1 at \$34,106.25 rate)	\$ 68,213	\$ 68,213	\$ 68,213
Travel(D&E SEEC 21.XX)	\$ 931		\$ -	\$ -	\$ -
Resource Support/Local Contract (D&E SEEC 25.50)	\$ 10,907		\$ -	\$ -	\$ -
Supplemental Care (D&E SEEC 25.56)	\$ -		\$ -	\$ -	\$ -
Miscellaneous (other D&E SEECs)	\$ 79,109		\$ -	\$ -	\$ -
<b>Direct Care Investment</b>	<b>\$ 773,566</b>		<b>\$ 289,794</b>	<b>\$ 114,794</b>	<b>\$ 114,794</b>
<b>Reimbursable Earnings</b>					
	Based on 3rd Party Claims in house report FY 00		Based on 10.63% figure from Health Net Report FY 00	Based on 10.63% figure from Health Net Report FY 00	Based on 10.63% figure from Health Net Report FY 00
Third Party Collections: (for GI Ambulatory Surgery Clinic)	\$ 50,950		\$ 31,475	\$ 31,475	\$ 31,475
<b>Savings/Cost Avoidance</b>					
Change in Direct Care: Savings (+) / Cost (-)			\$ 296,093	\$ 296,093	\$ 296,093
MCS Contract Impact: Savings (+) / Cost (-) with 80% risk sharing factor			\$ 37,774	\$ 212,774	\$ 212,774
<b>*Net Value for FY 00 1315 visits or 1437 procedures</b>	<b>\$ (722,617)</b>				

327,568

Cummulative Net Cost Avoidance

**Notes:**

Data comes from MEPRS FY 00  
BAG5, GI Ambulatory Surgery Clinic  
Summary Report, Health Net  
Historical Claims Report 1 Jan 00- 30  
Dec 00 & 3rd Party Claims Reports  
FY 00

In House procedures based on FY 00  
MEPRs Data

1315

No of procedures  
based on FY 00 ADS  
Report

1437

Procedures to Visits ratio = 1437/1315

1.09

No of Visits that can  
be seen based on  
new efficiencies

480

No of procedures based on new efficiencies  
523.2

Total Supply Costs For GI FY 00 MEPRS  
SEEC 26.XX  
\$127,986.47

No of Procedures FY 00 In ADS  
1437

Supply Cost per  
procedure  
\$89.07

Avg Cost Per Case  
\$169,135.43

239

**Unfunded Requirements (Mix of patients = 239 Prime & 284 VA procedures Option)**

	Current Funding	Initiative Notes	Initiative Financial Requirements	Second Year Phase-In	Third Year Phase-In
<b>Investment</b>	<b>Surgery FY01 Budget</b>	<b>239</b>	<b>Prime Procedures= 239 &amp; VA= 284</b>	<b>Prime Procedures= 239 &amp; VA= 284</b>	<b>Prime Procedures= 239 &amp; VA= 284</b>
Marginal (Direct Supplies + D&E SEEC 26.XX MEPRS Stepdown)	\$ 126,986	284	\$ 46,581	\$ 46,581	\$ 46,581
Capital (New Equipment & Construction)	\$ -	(Wall, Air Handler, POU, New Nurse Station)	\$ 175,000	\$ -	\$ -
Labor (Military + Contract + D&E SEEC 11.XX)	\$ 555,633	(Salary 2 LPNs fee at GS5, step 1 at \$34,106.25 rate)	\$ 68,213	\$ 68,213	\$ 68,213
Travel/D&E SEEC 21.XX)	\$ 931		\$ -	\$ -	\$ -
Resource Support/Local Contract (D&E SEEC 25.50)	\$ 10,907		\$ -	\$ -	\$ -
Supplemental Care (D&E SEEC 25.55)	\$ -		\$ -	\$ -	\$ -
Miscellaneous (other D&E SEECs)	\$ 79,109		\$ -	\$ -	\$ -
<b>Direct Care Investment</b>	<b>\$ 773,566</b>		<b>\$ 289,794</b>	<b>\$ 114,794</b>	<b>\$ 114,794</b>
<b>Reimbursable Earnings</b>	<b>Based on 3rd Party Claims In house report FY 00</b>		<b>Based on 10.63% figure from Health Net Report FY 00</b>	<b>Based on 10.63% figure from Health Net Report FY 00</b>	<b>Based on 10.63% figure from Health Net Report FY 00</b>
Third Party Collections: (for GI Ambulatory Surgery Clinic)	\$ 50,950		\$ 34,416	\$ 34,416	\$ 34,416
<b>Savings/Cost Avoidance</b>					
Change in Direct Care: Savings (+) / Cost (-)					
MCS Contract Impact: Savings (+) / Cost (-) with 80% risk sharing factor			\$ 323,761	\$ 323,761	\$ 323,761
<b>*Net Value for FY 00 1315 visits or 1437 procedures</b>	<b>\$ (722,617)</b>		<b>\$ 68,384</b>	<b>\$ 243,384</b>	<b>\$ 243,384</b>

\$ 358,177

**Cummulative Net Cost Avoidance**

**Notes:**

Data comes from MEPRS FY 00  
BAG5, GI Ambulatory Surgery Clinic  
Summary Report, Health Net  
Historical Claims Report 1 Jan 00- 30  
Dec 00 & 3rd Party Claims Reports  
FY 00

In House procedures based on FY 00 MEPRS Data 1315

No of procedures based on FY 00 ADS Report 1437

Procedures to Visits ratio = 1437/1315 1.09

No of Visits that can be seen based on new efficiencies 480

No of procedures based on new efficiencies 523.2

Total Supply Costs For GI FY 00 MEPRS SEEC 26.XX \$127,986.47

No of Procedures FY 00 In ADS 1437

Supply Cost per procedure \$89.07

Avg Cost Per Prime Case \$169,135.43 \$707.68 239

Average Cost Per VA Case \$193,282.42 \$680.57 284

**Unfunded Requirements (Mix of patients = 239 Prime & 284 VA procedures Option Charging Only APC Rate)**

	Current Funding	Initiative Notes	Initiative Financial Requirements	Second Year Phase-In	Third Year Phase-In
<b>Investment</b>	<b>Surgery FY01 Budget</b>	<b>239 Prime &amp; 284 VA</b>	<b>Prime Procedures= 239 &amp; VA= 284</b>	<b>Prime Procedures= 239 &amp; VA= 284</b>	<b>Prime Procedures= 239 &amp; VA= 284</b>
Marginal (Direct Supplies + D&E SEEC 26.XX MEPRS Stepdown)	\$ 126,986		\$ 46,561	\$ 46,561	\$ 46,561
Capital (New Equipment & Construction)	\$ -	(Wall, Air Handler, POU, New Nurse Station)	\$ 350,000	\$ -	\$ -
Labor (Military + Contract + D&E SEEC 11.XX)	\$ 555,633	(Salary 2 LPNs fee at GS5, step 1 at \$34,106.25 rate)	\$ 68,213	\$ 68,213	\$ 68,213
Travel(D&E SEEC 21.XX)	\$ 931		\$ -	\$ -	\$ -
Resource Support/Local Contract (D&E SEEC 25.50)	\$ 10,907		\$ -	\$ -	\$ -
Supplemental Care (D&E SEEC 25.55)	\$ -		\$ -	\$ -	\$ -
Miscellaneous (other D&E SEECs)	\$ 79,109		\$ -	\$ -	\$ -
<b>Direct Care Investment</b>	<b>\$ 773,566</b>		<b>\$ 464,794</b>	<b>\$ 114,794</b>	<b>\$ 114,794</b>
<b>Reimbursable Earnings</b>	<b>Based on 3rd Party Claims In house report FY 00</b>		<b>Based on 10.63% figure from Health Net Report FY 00</b>	<b>Based on 10.63% figure from Health Net Report FY 00</b>	<b>Based on 10.63% figure from Health Net Report FY 00</b>
Third Party Collections: (for GI Ambulatory Surgery Clinic)	\$ 50,950		\$ 28,193	\$ 28,193	\$ 28,193
<b>Savings/Cost Avoidance</b>					
Change in Direct Care: Savings (+) / Cost (-)					
MCS Contract Impact: Savings (+) / Cost (-) with 80% risk sharing factor			\$ 265,217	\$ 265,217	\$ 265,217
*Net Value for FY 00 1315 visits or 1437 procedures	\$ (722,617)		\$ (171,384)	\$ 178,616	\$ 178,616

\$ 293,409

Cummulative Net Cost Avoidance

185,841

**Notes:**

Data comes from MEPRS FY 00  
BAG5, GI Ambulatory Surgery Clinic  
Summary Report, Health Net  
Historical Claims Report 1 Jan 00- 30  
Dec 00 & 3rd Party Claims Reports  
FY 00

In House procedures based on FY 00 MEPRS Data 1315

No of procedures based on FY 00 ADS Report 1437

Procedures to Visits ratio = 1437/1315 1.09

No of Visits that can be seen based on new efficiencies 480

No of procedures based on new efficiencies 523.2

Total Supply Costs For GI FY 00 MEPRS SEEC 26.XX \$127,986.47 No of Procedures FY 00 In ADS 1437

Supply Cost per procedure \$69.07

Avg Cost Per Prime Case \$189,135.43 \$707.68 239

Average Cost Per VA Case (APC Charge Only) \$120,101.56 \$422.89 284

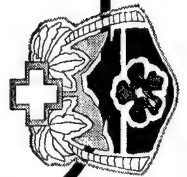
Prov/Second	CPT	CPT Description	CMAC	Year	Tar Amount	% of total or spread of procedure - 238	Tar X Services	Sched	Amount	Plan	OH	Place of Service	Status	Prime / Non-Prime	Risk
PRIMARY	43235	UGI ENDO, DX WWOV COLLEC IPE	261 46	TIER01	311	5	2.08%	1566	56813	1277 84	1277 84	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
PRIMARY	43239	UGI ENDO, WBSX 14X6	266 25	TIER02	354	27	11.39%	8658	21080 35	7440 17	7470 82	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
PRIMARY	45378	COLONOSCOPY FLEX, DX IREP PR	371 25	TIER02	354	17	7.11%	6016	18181 04	6571 78	6228 84	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
PRIMARY	45380	COLONOSCOPY FLEX, WBSX 14X6	402 83	TIER03	481	17	7.11%	8177	18880 83	7124 79	6786 15	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
PRIMARY	45384	COLONOSCOPY FLEX, REMOV LES	451 03	TIER04	567	11	4.80%	6047	17826 03	5250 84	5250 84	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
PRIMARY	45386	COLONOSCOPY FLEX, WIREMOV LE	513 35	TIER03	481	5	2.08%	2405	7241 36	3849 19	3849 19	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
PRIMARY	47100	BX LIVER WEDGE	464 49		1	0.42%	0	1786	514 86	514 86	514 86	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
PRIMARY	81010	EBOPH MOTILITY STUDY	127 21		1	0.42%	0	301 8	82 83	82 83	82 83	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
PRIMARY	91033	ESOPH ACID REFLUX, PROLONG R	158 06		2	0.84%	0	860	173 86	173 86	173 86	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
PRIMARY	85010	BCC ROUTINE 12 LEAD, INTRPT	11 75		1	0.42%	0	40	10 48	10 48	10 48	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
PRIMARY	86302	EMER VIST EBM LOW-MODERATE R	33 28		1	0.42%	0	40	30 25	30 25	30 25	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
PRIMARY	43235	UGI ENDO, DX WWOV COLLEC IPE	261 46	TIER01	311	4	1.67%	1244	3811 44	1074 72	1074 72	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
PRIMARY	43239	UGI ENDO, WBSX 14X6	266 25	TIER02	354	23	8.62%	8142	23564	6608 8	5328 53	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
PRIMARY	43251	UGI ENDO, WIREMOV TUMORALES	267 03	TIER03	481	1	0.42%	481	832	124 81	124 81	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
PRIMARY	43256	UGI ENDO, WIREMOV ULTRASOUND	318 53	TIER05	741	1	0.42%	741	1040	312 37	312 37	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
PRIMARY	43261	ERCP, WBSX 14X6	428 5	TIER04	567	1	0.42%	567	844	428 5	428 5	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
PRIMARY	43261	EM RTERT ENDO NOT ILEUM W/	232 08	TIER04	567	1	0.42%	567	416 84	101 86	101 86	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
PRIMARY	45378	COLONOSCOPY FLEX, DX IREP PR	371 25	TIER02	354	23	8.62%	8142	24881 86	8653 3	6501 11	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
PRIMARY	45380	COLONOSCOPY FLEX, WBSX 14X6	402 83	TIER03	481	5	2.08%	2405	5038 8	2119 74	2119 74	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
PRIMARY	45384	COLONOSCOPY FLEX, REMOV LES	451 03	TIER04	567	26	12.13%	17313	48236 31	13434 24	11540 36	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
PRIMARY	45386	COLONOSCOPY FLEX, WIREMOV LE	513 35	TIER03	481	14	5.89%	6734	18365 21	7351 78	5770 81	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
PRIMARY	81010	EBOPH MOTILITY STUDY	127 21		2	0.84%	0	603 2	185 86	185 86	185 86	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
PRIMARY	91033	ESOPH ACID REFLUX, PROLONG R	158 06		1	0.42%	0	250	86 83	86 83	86 83	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
SECONDIA	43235	UGI ENDO, DX WWOV COLLEC IPE	261 46	TIER01	311	2	0.84%	822	1218 8	278 35	278 35	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
SECONDIA	43239	UGI ENDO, WBSX 14X6	266 25	TIER02	354	16	6.89%	5864	12141 53	2311 78	2311 78	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
SECONDIA	45333	BIGMONOSCOPY FLEX, WIREMOV L	183 46	TIER02	354	1	0.42%	354	307 84	96 73	96 73	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
SECONDIA	45378	COLONOSCOPY FLEX, DX IREP PR	371 25	TIER02	354	2	0.84%	706	2320 38	813 51	813 51	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
SECONDIA	45384	COLONOSCOPY FLEX, REMOV LES	451 03	TIER04	567	1	0.42%	567	1467 6	248 81	248 81	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
SECONDIA	81010	EBOPH MOTILITY STUDY	127 21		1	0.42%	0	301 8	82 83	82 83	82 83	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
SECONDIA	43235	UGI ENDO, DX WWOV COLLEC IPE	261 46	TIER01	311	1	0.42%	311	608 4	130 75	130 75	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
SECONDIA	43239	UGI ENDO, WBSX 14X6	266 25	TIER02	354	16	6.89%	5884	13085 91	2198 68	1915 35	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
SECONDIA	45330	BIGMONOSCOPY FLEX, DX IREP	95 56		1	0.42%	0	133 12	54 07	54 07	54 07	AMBU/AT DRY/OUT	ADFM	PRIME	AT-RISK
SECONDIA	45378	COLONOSCOPY FLEX, DX IREP PR	371 25	TIER02	354	1	0.42%	354	1207 13	371 25	38 05	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
SECONDIA	45384	COLONOSCOPY FLEX, REMOV LES	451 03	TIER04	567	1	0.42%	567	1574 86	248 81	0	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
SECONDIA	45386	COLONOSCOPY FLEX, WIREMOV LE	513 35	TIER03	481	2	0.84%	862	3370 84	770 03	770 03	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
SECONDIA	78875	QI ENDO ULTRASOUND RAD S & I	114 43		1	0.42%	0	136	48 26	48 26	48 26	AMBU/AT DRY/OUT	NADFM	PRIME	AT-RISK
Totals						11858	350	100.00%	644,858.00	6347,860.43	176,159.43	176,159.43	7751.86		
									Total	380,336.42					
									Total w/ Facility	1,176,867.42					
									% w/ OH	60.89%					
									Total without OH	1,886,135.43					
									Avg Cost Per	4207.86					

**Note VA believes it really paid \$243,208 based on added facility charges.**

# **TAMC Endoscopy Center**

**Information Briefing for  
MG Adams  
28 January 2002**

**COL Dale Vincent  
Director, Medical Product Line**



# 3 Questions

- Should TAMC create an Ambulatory Procedure Center, which combines endoscopy and ambulatory surgery?
- Should TAMC create an Ambulatory Surgery Center?
- Should TAMC create a new endoscopy center?





# **Space Analysis does not support an Ambulatory Procedure Center**

- An Endoscopy Center (better than current setup) requires at least 8 rooms
- One ambulatory surgery suite requires at least 3 rooms
- No existing space at TAMC can accommodate both



## **Financial Analysis does not support an Ambulatory Surgery Center**

- No patients to recapture
- Retrofitting the facility will be costly
- Performing surgery in a location other than the current OR will fragment the support staff, reducing efficiency



## **BCA analysis supports an Endoscopy Center**

- Many patients are being referred to the network
- On-site recovery will increase efficiency, increasing recapture
- Cost of adapting space could be low
- Consolidation of endoscopy services will make multiple services more productive (GI, Gen Surg, Peds GI)
- The VA needs more endoscopy space

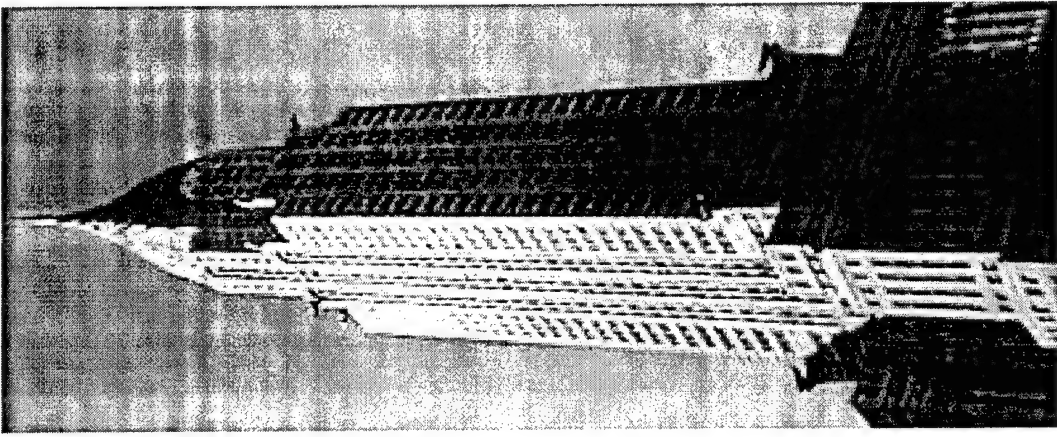


# National Endoscopy Trends

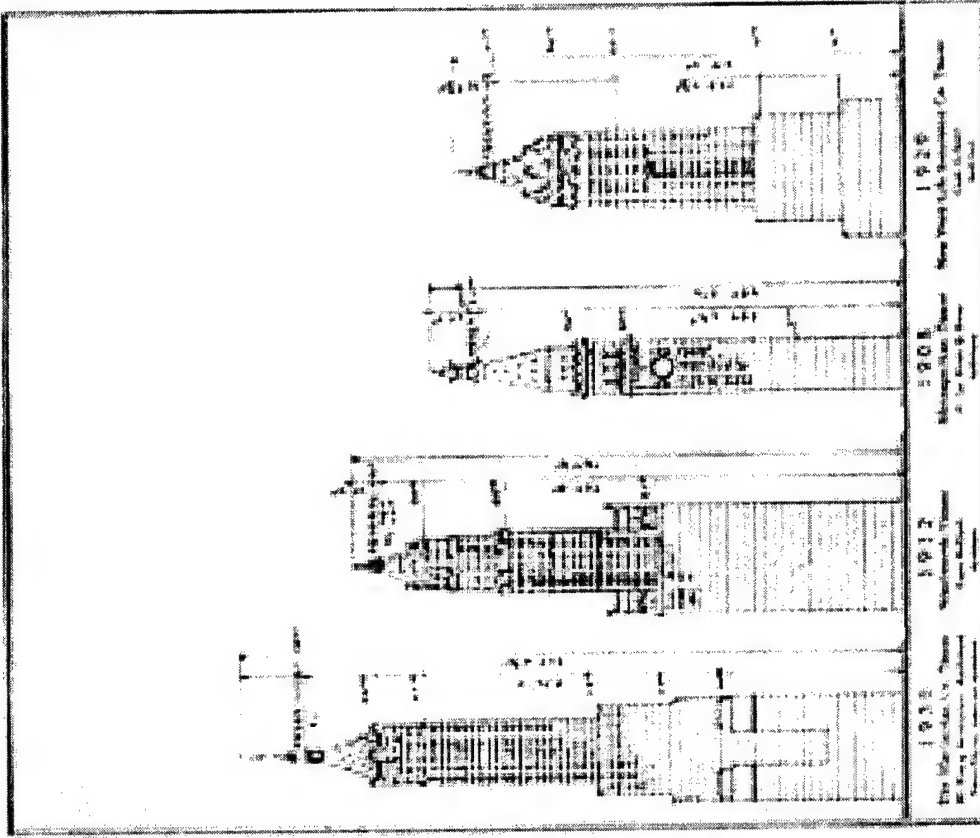
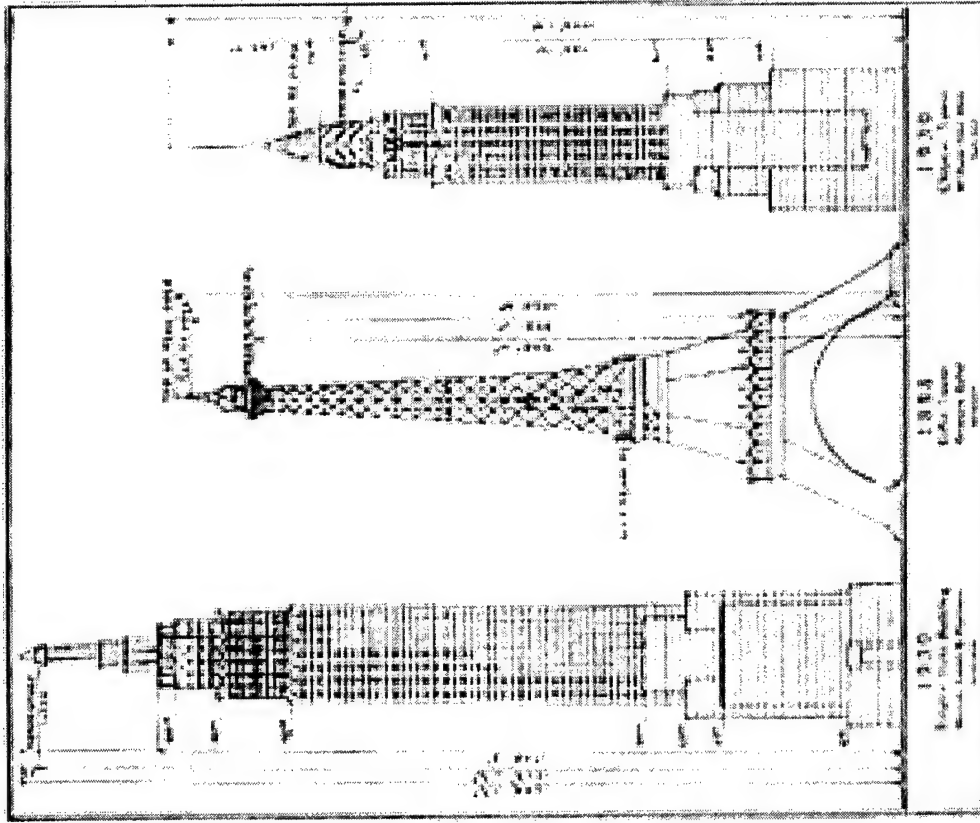
- 11% increase in population with digestive health problems in last decade
- Office visits for GI problems is increasing more than for general ambulatory problems
- Aging population will continue to increase the percentage of patients with digestive diseases
- Diagnostic and therapeutic potential favors endoscopy for screening



# Architects Rendering of TAMC Endoscopy Center



# Several Options to Choose From



# Space requirements for an Endoscopy Center

- Prep room
- Procedure rooms (at least 3)
- Recovery (larger than other rooms)
- Washer room (ventilated)
- Bathroom (handicapped accessible)
- Storage
- Waiting room



# Possible Locations

- **PICU – vacant – discarded as option (too small)**
- **Crit Care Admin –offices and storage**
- **1984<sup>th</sup> Space – 5<sup>th</sup> floor – vacant**
  - Would require significant interior construction (walls, plumbing, ventilation)
- **9<sup>th</sup> floor QSD/Safety – relocate to 1984<sup>th</sup> space**
  - Disruptive to 9<sup>th</sup> floor activities
  - Would require ventilation upgrade to 9<sup>th</sup> floor space
  - Would require remodeling of office space





	Current Location	Crit Care Admin	1984th	9 <sup>th</sup> Floor QSD
Max procedure rooms	3	4-5	4-5	>5
On site recovery	No	Yes	Yes	Yes
Remodeling costs (rough est.)	0	\$150,000 +	\$750,000 +++	\$350,000 ++
Time to implement		Quickest	Longest (construction)	
Flexibility	None	+	++	+++
Disruption	None	++ Lasting	0	+++ Temporary



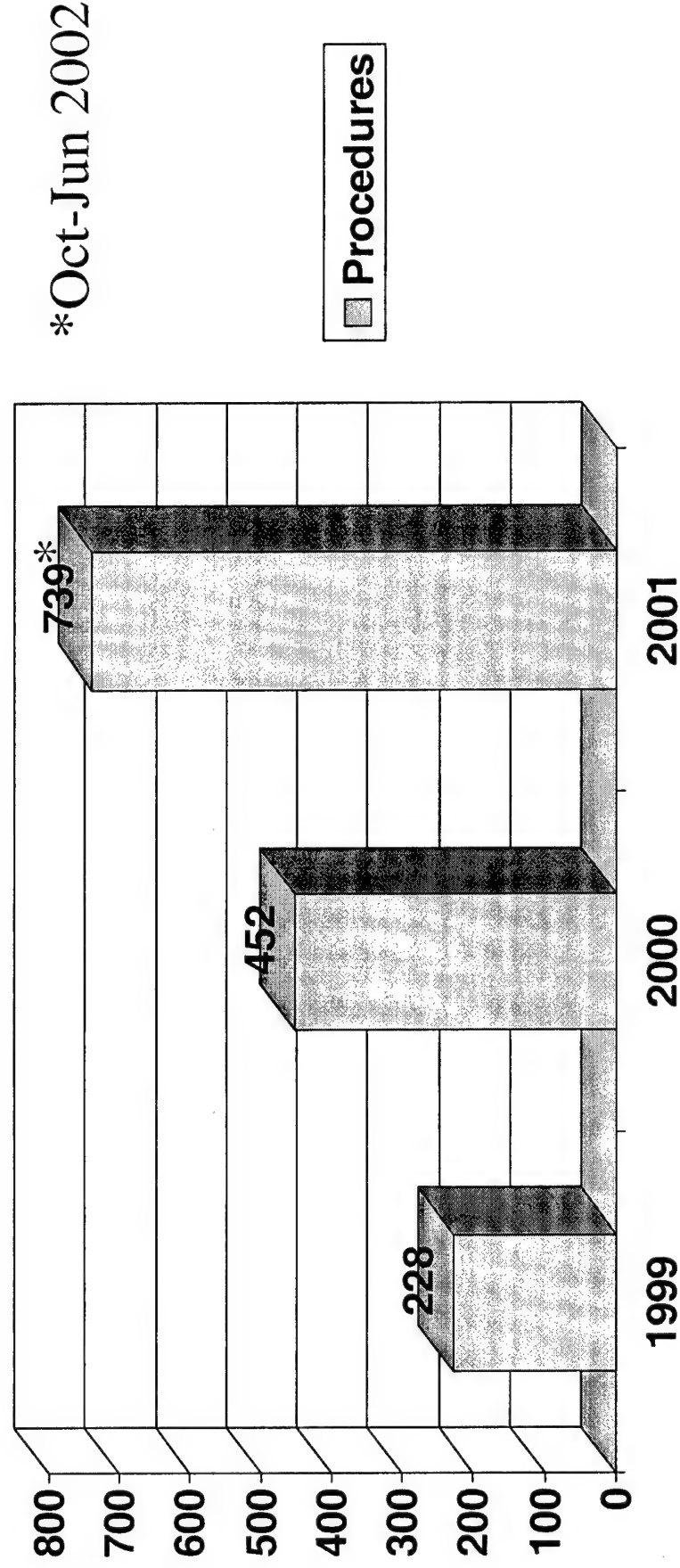
**523 Prime procedures available for annual recapture**

**Annual cost avoidance \$200,000 (professional fees only)**

**More likely to be \$300k-\$400k (total)**



# VA GI cases sent downtown



# VA Issues

- Would like to bring a GI doc TDY from Palo Alto each week to do 10 procedures
- Have assessed Queen's, St. Francis, and TAMC as possible endoscopy sites
- TAMC would be the preferred site
- Considering starting a joint VA-UH GI fellowship: 2 fellows paid for by VA, 2 by UH
- Dr. Ona would be fellowship director
- TAMC would be a clinical site



# Conclusions

- **TAMC Endoscopy Center**
  - Would recapture patients
  - Would pay for itself in 2-3 years or less, excluding any VA contribution
- **All of the sites under consideration would increase throughput: Crit Care Admin, 1984<sup>th</sup>, 9<sup>th</sup> Floor**
- **VA partnership is possible**
  - Enhance TAMC's BCA
  - Larger space would be desirable
  - Joint venture process can be lengthy





Appendix P, Weighted Decision Matrix GI APC

Weights Based on scale of 1-9, lower weight is best							
	4	1	5	3	2	6	
Course of Action	Maximum Procedure Rooms	Flexibility/Ability to Expand	Recovery Room	Movement & Construction Conversion Costs	Disruption	Aligns w/ BSC	Totals (Lowest score best option)
9th Floor	>5=1	best=1	yes=1	\$350,000 = 3	temporary=3	yes=1	
w/weight	4	1	5	9	6	6	31
OLD CCU	4-5=2.5	better=3	yes=2.5	\$150,000=2	lasting=4	yes=2	
w/weight	10	3	12.5	6	8	12	51.5
Med Specialties	3=4	none=4	no=4	0=1	none=2.5	no=4	
w/weight	16	4	20	3	5	24	72
1984th RSC	4-5=2.5	some=2	yes=2.5	\$750,000=4	none=2.5	yes=3	
w/weight	10	2	12.5	12	5	18	59.5
recommended course of action (Lowest Score)	9th Floor Option						